

CK Enterprises, LLC 8467 Arbor Trace Drive Verona, WI \$3593 608-444-0123

February 18, 2016.

Ms. Pam J Schense Wisconsin Department of Natural Resources 101 S Webster Street Madison, WI 53703

Ms. Kerrie Hauser U.S. Army Corps of Engineers La Crescent Regulatory Field Office 1114 South Oak Street La Crescent, MN 55947

Dear Ms. Schense and Ms. Hauser,

On behalf of CK Enterprises, LLC, I am pleased to provide you with a Prospectas for a proposed compensatory welland mitigation bank, "Big Hollow Wetland Bank" located in Sauk County, Wisconsin. Please contact me directly with questions or comments. We are looking forward to working with you on this project,

Sincerely,

Dale Clark

Enclosure:

WETLAND COMPENSATORY MITIGATION BANK PROSPECTUS

BIG HOLLOW WELLAND BANK

Cc: Jeff Kraemer



Town of Spring Green, Sauk County, Wisconsin

# Prepared for:

Ms. Pam J Schense Wisconsin Department of Natural Resources 101 S Webster Street Madison, WI 53703

Ms. Kerrie Hauser U.S. Army Corps of Engineers La Crescent Regulatory Field Office 1114 South Oak Street La Crescent, MN 55947

# Prepared by:

CK Enterprises, LLC 8467 Arbor Trace Drive Verona, WI 53593 (608) 444-0123



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Attachment 2 - Wetland Delineation Report

Attachment 3 – Monitoring Well Boring Logs

Attachment 4 – Monitoring Well Hydrographs (Figures 8 -9)

Attachment 5 - Resumes



CK Enterprises, LLC ("CKE") is pleased to provide information regarding a proposed wetland compensatory mitigation bank herein referred to as "Big Hollow Wetland Mitigation Bank" located in Section 2, Township 8 North, Range 3 East, in the Town of Spring Green, Sauk County, Wisconsin. Specifically, the Property is located southeast of the intersection of Big Hollow Road and CTH G (Attachment 1 - Figure 1. Project Location). The information provided below follows the template "Requirements for Submitting a Complete Mitigation Bank Prospectus to the St. Paul District, U.S. Army Corps of Engineers".

### 1 OWNER AND AGENT

Current landowner is Dale Clark (Clark Living Trust). The bank sponsor is CK Enterprises, LLC which will acquire the property within the project area and fulfill the terms of the Mitigation Banking Instrument (MBI). CKE will provide overall technical expertise of the wetland restoration design and mitigation banking instrument development. Additional consulting expertise will be provided from Stantec Consulting Services Inc. and Montgomery Associates Resource Solutions, LLC.

### 2 OBJECTIVES

The specific objective of the proposed mitigation bank is to restore approximately 125 acres of emergent wetland and up to 30 acres of upland buffer (Attachment 1 - Figure 2). Emergent wetland will consist primarily of wet meadow and sedge meadow communities with limited pockets of shallow marsh community. Upland buffers will consist of tallgrass mesic prairie. The wetland restoration will result in the enhancement of floral diversity, wildlife habitat, flood protection, and surface water and groundwater quality protection.

# 3 OPERATION

The wetland mitigation bank will be developed and operated in accordance with the Guidelines for Wetland Compensatory Mitigation in Wisconsin. The wetland mitigation bank will be established through wetland restoration of an existing agricultural field. The general anticipated design concept will include minor grading of the site to create microtopography. The site is positioned within the watershed that lends itself to occasional saturation and/or flooding near the surface. The design concept will include measures to retain water on-site for durations sufficient to support desired wetland plant communities. These measures may include berms, scraping, and ditch removal. In addition, a regional drainage ditch system that services other properties commences on the Site. The design concept will include measures to control the release of on-site water to the regional drainage ditch to maximize storage capacities on-site while avoiding any unintended consequences off-site, both up and down gradient. The bank site will be managed to promote wet meadow and sedge meadow. Limited establishment of shallow marsh is anticipated.



### 4 SERVICE AREA

The Site is located in the Lower Wisconsin River Bank Service Area and will service the Mississippi River Basin (Attachment 1 – Figure 3. Bank Service Area).

# 5 NEED

Currently there is only one approved wetland mitigation bank within the Lower Wisconsin River BSA with minimal to no credit availability. In general, the Mississippi River Basin mitigation bank credit availability does not fulfill the credit needs of the State. In-lieu fee has been utilized extensively throughout the basin. Approval and development of the proposed bank will help to address some of the credit shortages.

### 6 TECHNICAL FEASIBILITY

The site selected for this project is located within a geomorphic landscape position that is suitable for wetland restoration. The site has a history of a fluctuating high groundwater table and intermittent surface water flooding which have been studied and evaluated fairly extensively in the recent past in response to extreme flood events within the township. Ditch systems are currently maintained that minimize frequency, duration, and spatial extent of flooded or saturated conditions. The topography of the site is generally level with little topographic relief. Modifications to the existing drainage systems should result in hydroperiods sufficient to support targeted wetland plant communities. Intermittent scraping throughout the site to create microtopographic and hydrologic variations will favor development of diverse plant communities and habitat types. Selection of appropriate plant species and an aggressive adaptive management plan will promote native plant community development. A well qualified team of ecologists and water resource engineers experienced in wetland restoration will develop the detailed site design and management/monitoring plan. The selected design team has a history with the existing site and is knowledgeable of the historic and existing conditions as it relates to wetland restoration. The lead wetland ecologist for this project also lead the development of a successful wetland mitigation site in Trempealeau County using a similar approach that involved modifying and disabling the ditch system, shallow scraping to create microtopographic relief, customized seed and plant selection, and aggressive and adaptive management of the site. The water resource engineering team has supported the Township with past hydrological modeling efforts of this area in support of the flood relief evaluation and planning completed.

### 7 OWNERSHIP AND LONG-TERM MANAGEMENT

Ownership of the property is currently held by Dale Clark (Clark Living Trust) (Attachment 1 - Figure 4. Property Map). The bank sponsor, CKE will acquire the portions of the property incorporated into the compensatory wetland mitigation bank boundaries and will be responsible for achieving the terms of the Mitigation Banking Instrument (MBI) including short and long term management. The mitigation area will be protected in perpetuity through a conservation easement. Long-term ownership and management is currently assumed to continue with CKE. However, given the



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proximity of the site to the Spring Green Preserve State Natural Area (Figure 4) currently under ownership by The Nature Conservancy, there may be opportunities for future incorporation into the state natural area or other partnerships with TNC (note: no discussions regarding this proposed project or potential partnerships have taken place to date with TNC).

### 8 QUALIFICATIONS

The bank sponsor is well qualified to successfully complete the mitigation project. The bank sponsor (CKE) currently consists of the landowner that presently farms the property and technical experts in wetland restoration and hydrology studies that have been involved with numerous successful wetland mitigation and restoration projects for decades.

# 9 ECOLOGICAL SUITABILITY

The proposed site is identified by WDNR as "potentially restorable wetlands" that align well with the proposed restoration area (Figure 4). WDNR wetland mitigation staff have completed site visits and indicated the sites suitability for wetland restoration to serve as a compensatory mitigation bank is favorable. The location of the proposed site provides a unique opportunity for development of a wetland mitigation bank site that will result in substantial ecological benefits. The entire site is currently under agriculture use, specifically row cropping and does not contain any natural habitat or vegetation outside of the existing ditch systems (Attachment 1 – Figure 5. 2013 Aerial Photograph).

A wetland delineation of the site was completed in 2014 under the WDNR wetland delineation assurance program and further field reviewed and confirmed by WDNR wetland identification program staff (Attachment 2 - Wetland Delineation Report). One small (1.1 acre), isolated farmed wetland was identified within the site, excluding the ditch system.

Soils mapped on the Property by the NRCS Soil Survey of Sauk County include Dakota loam (DaA), Gotham loamy sand (GoB), Pillot silt loam (PcA), Plainfield loamy sand (PfB, PfC), Sparta loamy sand (SpB), Sparta variant loamy sand (St), Toddville silt loam (TvA), and Watseka loamy sand (Wt). According to the NRCS List of Hydric Soils for Sauk County, the Watseka series may contain hydric inclusions. The Watseka soil series comprises the majority of the proposed wetland restoration area and is the basis of the WDNR mapped "potentially restorable wetland" (Figure 4). In general, soils within this area consist of fine sand and loamy sand associated with the Wisconsin River valley. The Watseka series specifically consists of very deep, somewhat poorly drained soils formed in sandy deposits or outwash sediments. They are situated on outwash plains and stream terraces. The attached wetland delineation report contains further details of soil profiles observed within the site.

The site has been in agricultural row crop production for decades and generally is productive. In recent years (2008 primarily) the site was subjected to extensive flooding as a result of heavy rainfall, significant surface inflows from the up gradient bluffs and valleys, and a significantly elevated groundwater table. Surface and groundwater impacts were widespread in the area during that time and portions of the Village of Spring Green, just down gradient from the site, as well as the Town of Spring Green experienced historic flooding events. As a result of these events, a regional drainage



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ditch was constructed commencing in the southeast corner of the Clark Property, ultimately draining to the Wisconsin River due south of the site. Additionally, a stormwater detention basin was constructed in the northwest corner of the site to capture surface water runoff entering the site from the north and northwest. The construction and maintenance of both the regional drainage ditch and stormwater detention basin were carried out by the Town of Spring Green and Sauk County through easement agreements. More recently, through unrelated land use permit requirements obtained by Mr. Clark from Sauk County, Mr. Clark was required to construct a drainage ditch through the property to connect the detention basin to the regional drainage ditch. Mr. Clark worked with the County, WDNR, USACE, and NRCS to gain approvals for construction of the ditch.

Wetland restoration of this specific site, provides a unique opportunity to provide further flood protection and both groundwater and surface water quality protection that will be more ecologically beneficial than the existing drainage ditch system and current agricultural land use. By restoring wetland on the site, floodwater storage and groundwater infiltration will be increased, thereby slowing the release of direct agricultural surface water runoff into the regional ditch system which discharges into the lower Wisconsin River. The additional flood storage capacity provided by the restoration will further benefit and protect downstream flood prone property during heavy rainfall events while the increased residence time of surface water and groundwater stored on site during wet periods will allow for suspended solids to settle out prior to discharging downstream. Conversion of the site from agricultural row crop production to densely vegetated perennial wetland and prairie vegetation will lead to increased filtration of sediments and other pollutants and the uptake of excess nutrients prior to entering the Wisconsin River. The deeply rooted native vegetation will protect on-site soil from further wind and water erosion and lead to increased filtration and recharge of groundwater. The proposed plant communities will consist of wet meadow, sedge meadow and mesic prairie. A detailed planting plan will be developed upon approval of the prospectus. Projected wetland types and acreages as well as credits are presented in Table 1 below.



Table 1: Proposed Credits based on Anticipated Community Acreage

Anticipated Community	Anticipated Acres	Proposed Ratio	Proposed Credits
Wetland Restoration		<u> </u>	
Wet Meadow	95	1:1	95
Sedge Meadow	25	1:1	25
Shallow Marsh	5	1:1	5
RESTORATION TOTALS	125		125
Wetland Enhancement			
Sedge Meadow	1.1	0.75:1	0.83
WETLAND ENHANCEMENT TOTALS	1.1		0.83
Upland/Wetland Buffer		1	
Upland Buffer (Mesic Prairie)	29	0.25:1	7.25
Stormwater Management Basin/Catchment Basin	3	0.25:1	0.75
BUFFER TOTALS	30		8
TOTAL PROJECTED ACRES/CREDITS	158.1		133.83



### 10 HYDROLOGY

The site receives substantial surface water runoff inflow from a drainage swale system that conveys runoff to the northwest corner of the site (Attachment 1 - Figure 6. Site Hydrologic Conditions). This drainage originates from local agricultural lands to the north and west and also includes runoff from Big Hollow, a valley that extends into the uplands north of the Wisconsin River valley terraces. The tributary watershed that discharges runoff to the northwest corner of the site has an area of approximately 12 sq.mi. Runoff enters the detention basin at the northwest corner of the site, and from there discharges through the excavated swale eastward and then south, exiting the site in the southeast corner (Figure 6). Before construction of the regional drainage relief channel, surface water runoff entering the site was trapped by the low sand dunes to the south, which created an intermittent condition of ponded surface water and extreme high groundwater conditions that occasionally produced area-wide flooding. The most significant recent flooding episode occurred during the severe storms of 2008, which inundated the site as well as extensive areas to the east and the west, including the Village of Spring Green. In response to the 2008 flooding, an excavated drainage relief channel was built that accepts runoff at the southeast corner of the property and discharges it to the Wisconsin River (Attachment 1 - Figure 7. Regional Hydrologic Conditions). Under present conditions, spring and summer storm runoff typically fills the detention basin and overflow runoff frequently crosses the site from west to east and exits via the drainage relief channel to the Wisconsin River. Areas of local surface ponding and soil moisture accumulation occur throughout the property, especially in the northern portion of the site, corresponding roughly to the extent of the Watseka loamy sand map unit.

Groundwater is present at relatively shallow depths throughout the Wisconsin River valley in the vicinity of the site. Much of the agricultural land in the area is irrigated using center-pivot irrigators served by high-capacity wells. Six groundwater monitoring wells identified as SG-1 through SG-6 were installed in the area near the site in 2008, during the investigations that led to the design and construction of the regional drainage relief channel, as shown on Figure 7. These wells were monitored from October 2008 through February 2009 as part of the drainage channel relief design project. Beginning in mid-2010 and through the present, these wells have been monitored by the Town of Spring Green.

Six soil borings and monitoring wells equipped with data loggers were installed on the Clark Property on December 15, 2015. Monitoring wells were installed to depths of 16 to 24 feet for the purpose of evaluating local and regional water table characteristics. Boring logs and monitoring well installation details are attached (Attachment 3). The soil borings indicate soil conditions that are consistent with the soil survey definitions. At the borings, the surface soils were composed of sandy loams, loamy sands, and sands, with subsurface soils generally consisting of fine to medium sands. An apparent buried soil horizon was encountered at a depth of approximately seven feet at MW-4, located at the edge of the sand dune area.

Water table elevation data from the six monitoring wells installed on-site, identified as MW-1 through MW-6 are being collected using automated data loggers, and data is available for a portion



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of January 2016, with ongoing data collection. This water table data is shown on Figures 8 and 9 (Attachment 4). Note that the on-site water level elevations shown are based on available topographic data from the county. These wells will be tied to NAVD 88 elevation datum in the next several months, allowing more detailed comparison with the previously established wells. Initial review of the groundwater monitoring data indicates the following:

- 1. Regional groundwater flow directions are from north to south, consistent with previous analyses and investigations;
- 2. On-site monitoring wells 1 through 6 show elevations consistent with the regional water table wells;
- 3. The on-site monitoring well data for January 2016 indicates that the water table is located from 4 to 6 feet below the ground surface. However, on-site observations of soil moisture suggest that shallow perched or semi-perched water table conditions may typically exist in many portions of the site;
- 4. Monitoring Well-3 (MW-3), located in the northwest portion of the site adjacent to the detention basin shows the effects of detention basin water levels resulting from inflow to the basin during runoff events, indicating recharge to the local groundwater system from the detention basin;
- 5. The regional groundwater data shows that groundwater levels have fluctuated (up as well as down) approximately 5 feet since 2010, with the duration of high and low water levels often extending for more than one year.

Data collection and analyses are planned to further evaluate wetland hydrology conditions in the target wetland mitigation bank area. We expect that these activities will include:

- Continuing data collection at the six on-site and six regional monitoring wells;
- Installation of shallow monitoring wells in the target restoration areas to identify shallow perched and semi-perched water levels and evaluate wetland hydrology performance standards;
- Monitoring of surface water runoff through the site
- Groundwater and surface water analysis to evaluate the combination of surface water drainage
   alteration and groundwater elevations required to produce wetland hydrology in the
  - alteration and groundwater elevations required to produce wetland hydrology in the mitigation areas;
- Analysis to confirm that the through flow of significant flood waters to the regional drainage relief channel leading to the Wisconsin River is unimpeded;
- Groundwater hydraulic analyses to confirm the mitigation design do not produce negative off-site water table impacts.

The planned wetland hydrology will be variable across the restoration site to maximize species and plant community diversity. The planned hydroperiod will generally consist of seasonally saturated soils with short durations of shallow inundation in lower lying areas after snowmelt and heavy rain



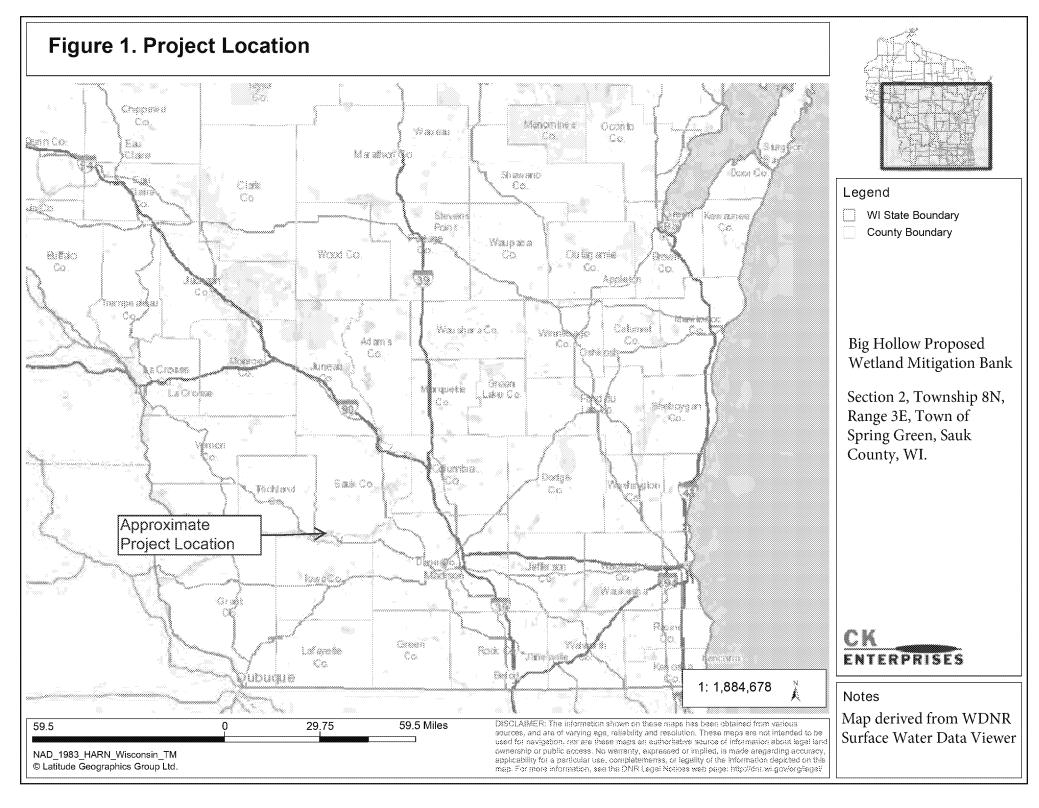
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falls. To a lesser extent, the depressional areas and graded areas will experience longer durations of inundation and saturation. Semi-permanent inundation is not anticipated to occur within more than 5% of the restoration area. Development of hydrology performance standards for this site will require non-standard parameters. Hydrology is anticipated to be widely variable dependent on climatic conditions. The site will likely fluctuate between wet and dry cycles at various intervals and extremes, in which the hydrologic regime may not fit into the traditional hydrologic performance parameters commonly applied to emergent wetland restorations. Purposed hydrology performance standards will be developed as the hydrologic studies progress and will be developed in cooperation with the Interagency Review Team (IRT).



# ATTACHMENT 1 PROJECT MAPS (FIGURES 1 – 7)





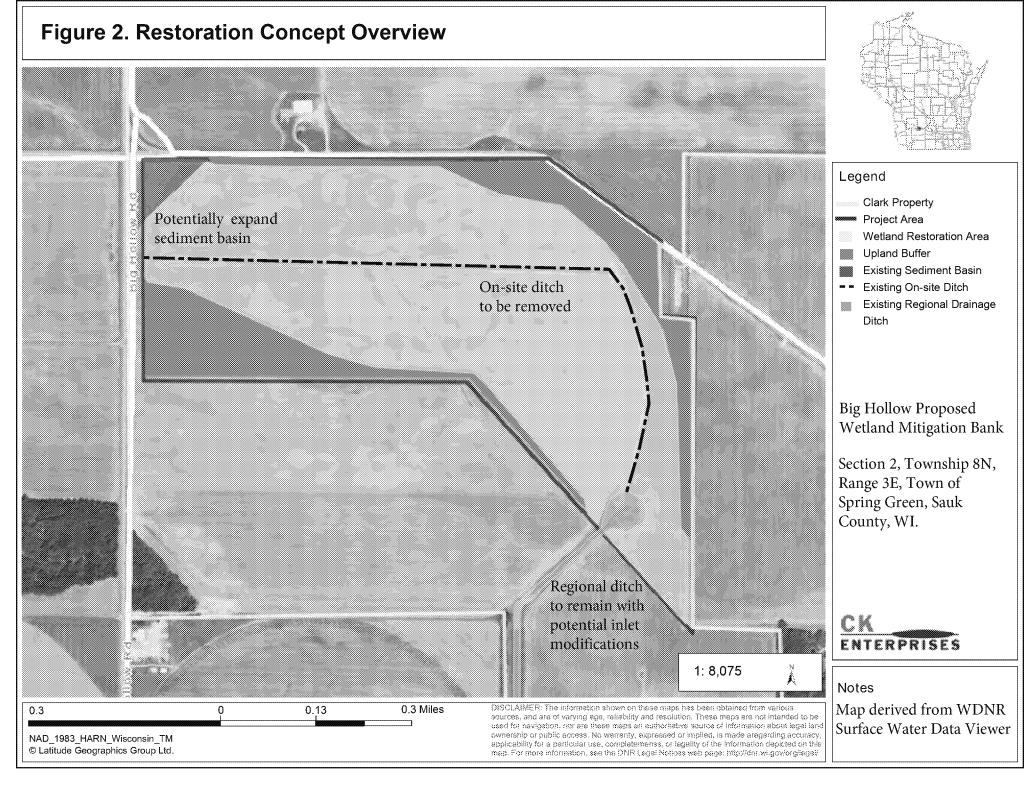
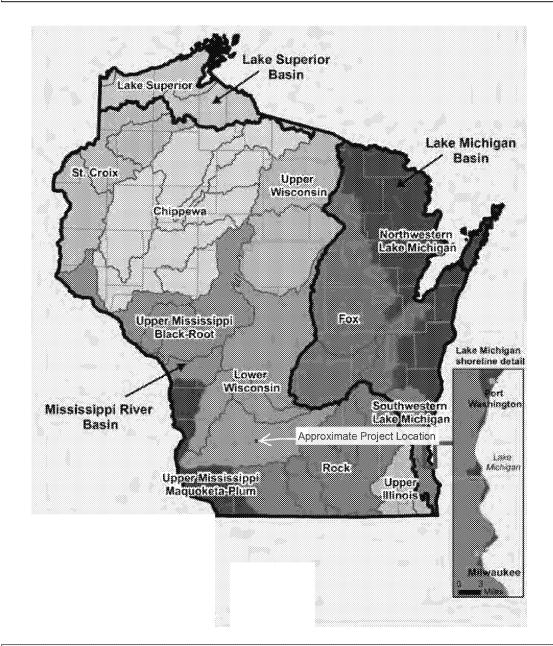


Figure 3. Bank Service Areas (BSA) Relative to Project Location





Legend

2

Major Basins

> HVC-8 Boundaries

County Boundaries

Big Hollow Proposed Wetland Mitigation Bank

Section 2, Township 8N, Range 3E, Town of Spring Green, Sauk County, WI.

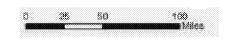


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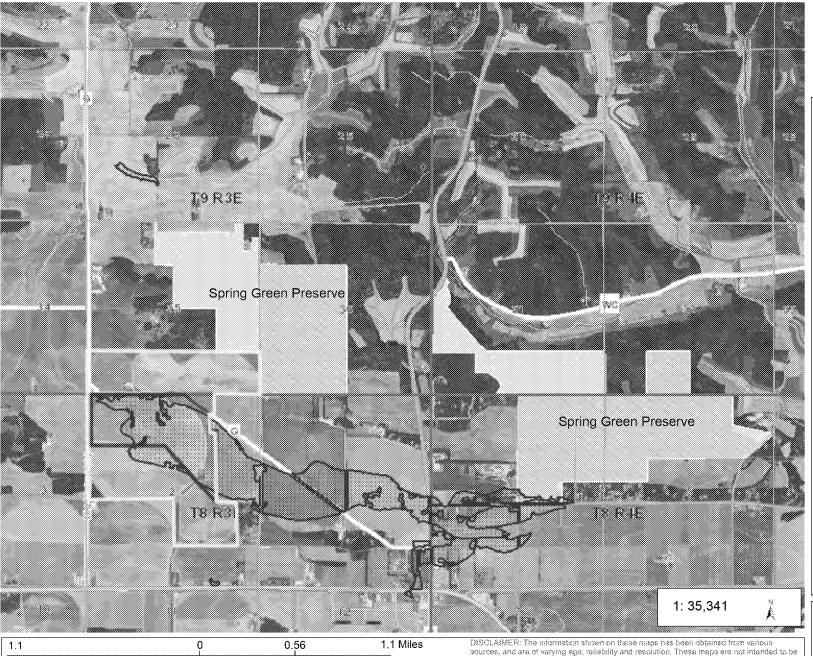
Notes

Map derived from WDNR Surface Water Data Viewer



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Figure 4. Clark Property and Project Area Relative to WDNR Mapped Restorable Wetlands and Spring Green Preserve (TNC Lands)



NAD 1983 HARN Wisconsin TM

© Latitude Geographics Group Ltd.



# Legend

Potentially Restorable Wetland

Less than 0.5 Acres

PRW

Township

Section

State Natural Area (TNC)

Clark Property

Project Area

Big Hollow Proposed Wetland Mitigation Bank

Section 2, Township 8N, Range 3E, Town of Spring Green, Sauk County, WI.



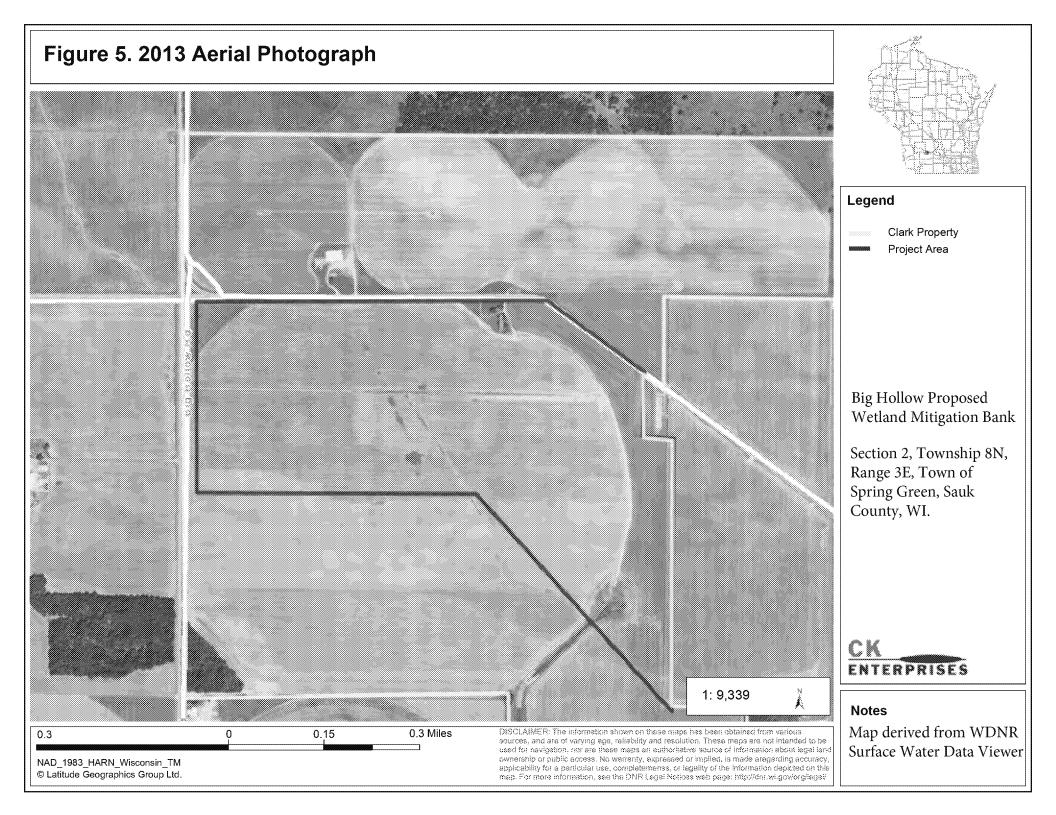
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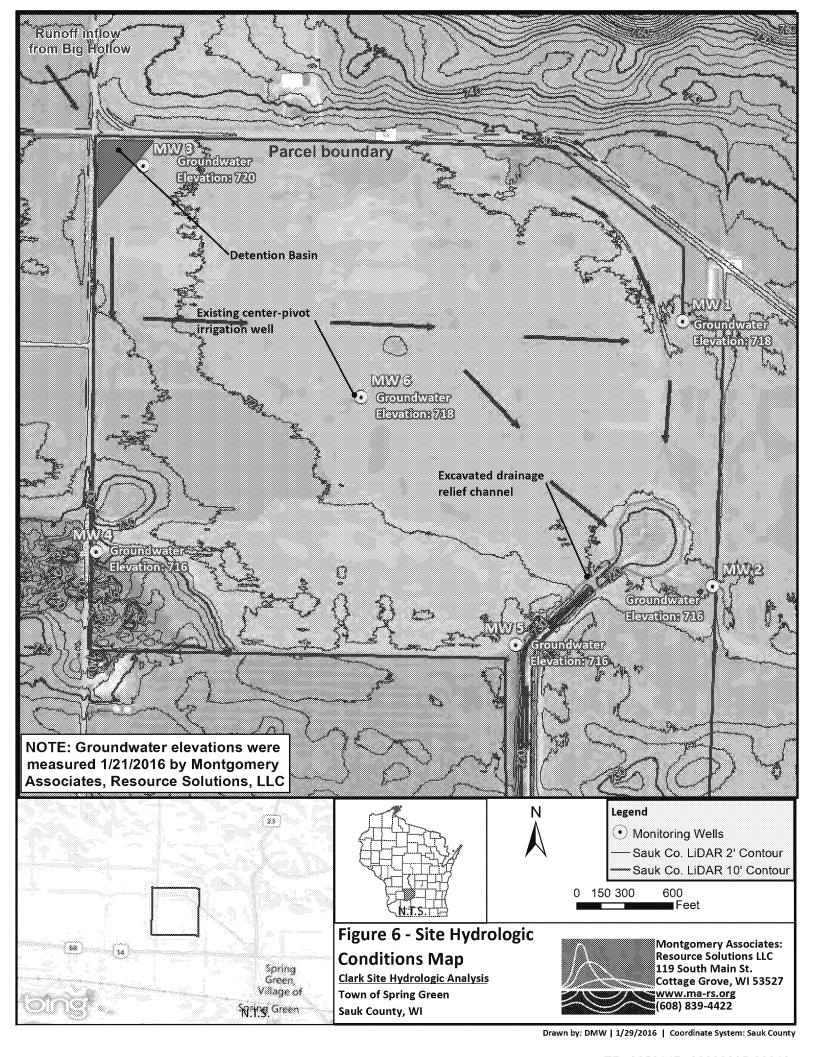
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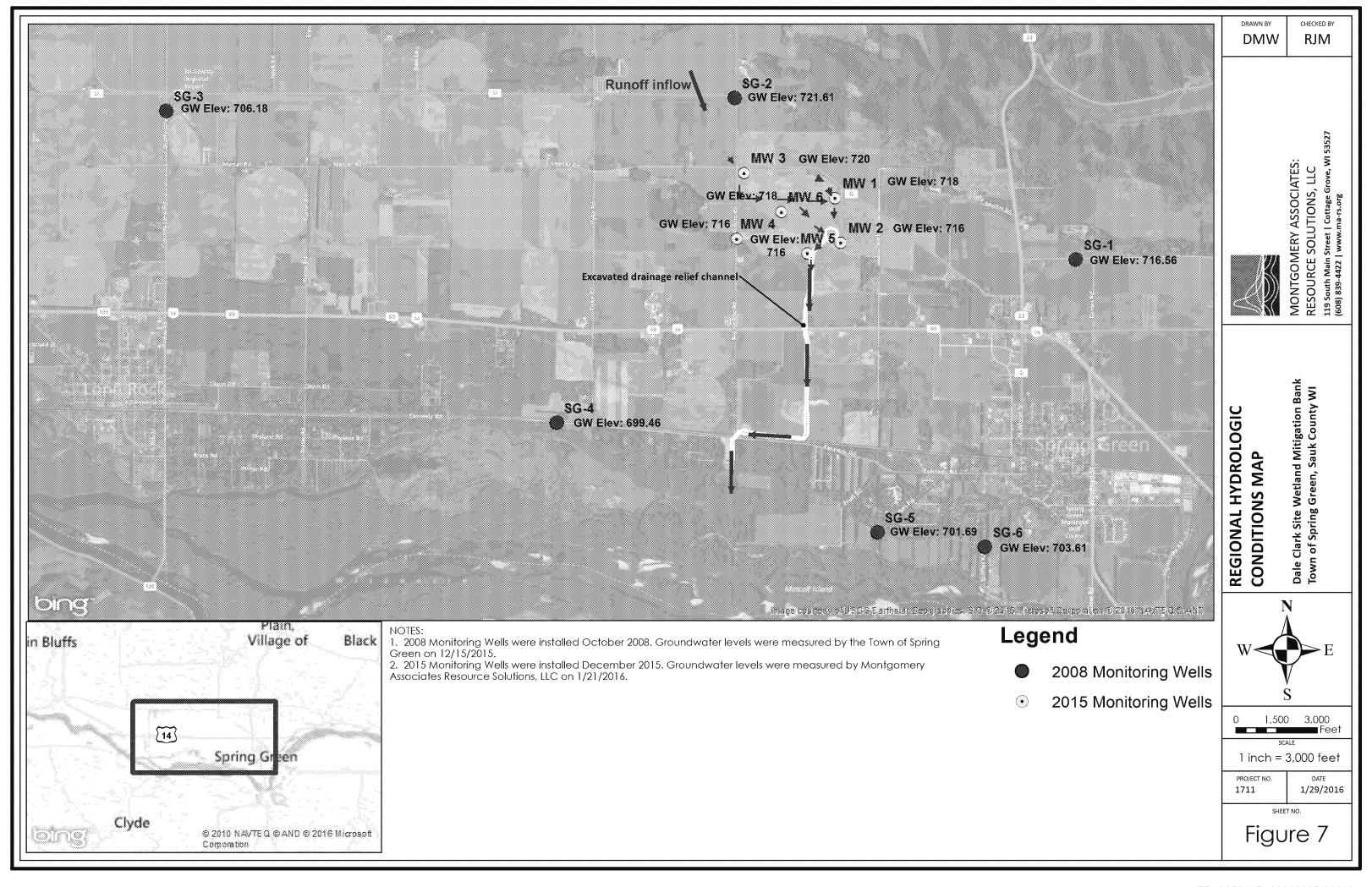
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Map derived from WDNR Surface Water Data Viewer







# ATTACHMENT 2 WETLAND DELINEATION REPORT



 From:
 Molstad, Neil E - DNR

 To:
 Kraemer, Jeff

 Cc:
 Nedland, Thomas S - DNR; Schure, Jeff J - DNR; kerrie.j.hauser@usace.army.mil

 Subject:
 Site Visit Summary Memorandum - Clark Property Town of Spring Green Sauk County

 Date:
 Thursday, May 14, 2015 11:02:09 AM

 Attachments:
 Clark WtldRpt DRAFT 121514 17.pdf

Good morning,

This email is intended to briefly summarize the results of a field meeting at property owned by Mr. Dale Clark. A wetland delineation on the approximately 280 acre property was conducted by Jeff Kraemer of Stantec on November 7, 2014, the results of which are shown on the attached figure. However, much of this property has been subject to occasional, long term flooding and ponded conditions (1993 and 2008). Additionally, the landowner, town, and county have constructed various stormwater retention and conveyance features in and around Mr. Clark's property in an attempt to mitigate this long term ponding and flooding, which has caused significant damage to land and other property throughout the area. In light of these circumstances, Mr. Kraemer contacted the Wisconsin Department of Natural Resources (DNR) for clarification as to if any portions of Mr. Clark's property beyond the wetland areas he delineated were subject to DNR wetland regulatory authority.

The site visit was conducted on Wednesday, May 13, 2015, with the following people present:

Jeff Kraemer, Stantec
Mr. Dale Clark
Tom Nedland , DNR
Neil Molstad, DNR
Jeff Shure, DNR
Town of Spring Green representative

As a result of the site visit, the DNR confirms Mr. Kraemer's wetland boundaries as depicted on the attached map. Furthermore, it does not appear that any of the recently built stormwater retention and conveyance features on Mr. Clark's property were constructed within regulated wetlands, provided that documentation is produced from the U.S. Army Corps of Engineers stating no wetland was present within the area referred to in the attached exhibit as "Regional Drainage Ditch".

Please feel to call or email me with any questions or comments.

Regards,

Neil Molstad

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# Neil Molstad

Wetland Identification Specialist Wisconsin Department of Natural Resources 141 NW Barstow Room 180-Waukesha, WI 53188

Phone: (262) 574-2115 Work Cell: (414) 322-4978 Neil.Molstad@wisconsin.gov



# **Wetland Delineation Report**

Clark Property Wetland
Delineation
Town of Spring Green, Sauk
County, WI
Stantec Project #: 193703359



Prepared for: Dale Clark 8467 Arbor Trace Drive, Verona, WI 53593

Prepared by: Stantec Consulting Services Inc. 209 Commerce Parkway, PO Box 128 Cottage Grove, Wisconsin 53527 Phone: (608) 839-1998

Fax: (608) 839-1995

December 15, 2014

# Sign-off Sheet

This document entitled Wetland Delineation Report was prepared by Stantec Consulting Services Inc. (Stantec) for Dale Clark. The material in it reflects Stantec's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Prepared by \_ / \ / )

(signature)

**Kate Remus** 

Reviewed by \_\_\_\_\_\_\_(signature)

Jeff Kraemer, Principal



Clark Property Wetland Delineation INTRODUCTION December 15, 2014

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Clark Property Wetland Delineation INTRODUCTION
December 15, 2014

# 1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) performed a wetland determination and delineation of the Clark property (the "Property") on behalf of Dale Clark. The Property is approximately 280 acres in size and located in Section 2, Township 8 North, Range 3 East, in the Town of Spring Green, Sauk County, Wisconsin. Specifically, the Property is located southeast of the intersection of Big Hollow Road and CTH G (Figure 1).

The purpose and objective of the wetland determination and delineation was to identify the extent and spatial arrangement of wetlands within the Property. The initial intent of the wetland determination was to present a professional opinion as to whether a recently excavated agricultural ditch was developed within wetlands, however the entire Property as depicted in Figures 1-4 was evaluated for wetland conditions. The recently excavated ditch was created in coordination with Sauk County Land Conservation and Natural Resource Conservation Service (NRCS). The ditch itself was not evaluated for wetland conditions as it was recently created, however based on field observations the ditch does express wetland characteristics (wetland hydrology and wetland vegetation).

The wetland delineation was completed by Jeff Kraemer of Stantec, a wetland professional whose wetland delineation work is assured by the Wisconsin Department of Natural Resources (WDNR), on November 7, 2014. One wetland area was identified on the Property. Although the wetland delineation fieldwork was completed approximately one week outside of the growing season, limitations of the wetland determination were minimal. The investigation area is entirely cropped for commercial production and weed control is aggressive, therefore it is unlikely that additional vegetation characteristics would be substantially different if completed during the growing season. Additionally, since the area is cropped, emphasis was placed on recent and historic conditions based on desktop review of aerial photographs. Furthermore, conditions during the time of the investigation were wetter than normal for the time period such that hydrologic conditions were relevant, although not investigated during the wet portion of the growing season. There was no frost or snow cover present at the time of the field investigation.

Wetlands and waterways that are considered waters of the U.S. are subject to regulation under Section 404 of the Clean Water Act (CWA) and the jurisdictional regulatory authority lies with the U.S. Army Corps of Engineers (USACE). Additionally, the WDNR has regulatory authority over wetlands, navigable waters, and adjacent lands under Chapters 30 and 281 Wisconsin State Statutes, and Wisconsin Administrative Codes NR 103, 299, 350 and 353. Finally counties, townships and municipalities may have local zoning authority over certain types of wetlands and waterways. Stantec recommends this report be submitted to local authorities, the WDNR and USACE for final jurisdictional review and concurrence.



Clark Property Wetland Delineation METHODS December 15, 2014

# 2.0 METHODS

# 2.1 WETLANDS

Wetland determinations were based on the criteria and methods outlined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1 (1987) and subsequent guidance documents (USACE 1991, 1992), and applicable Regional Supplements to the *Corps of Engineers Wetland Delineation Manual*.

The wetland determination involved the use of available resources to assist in the assessment such as U.S. Geological Survey (USGS) topographic maps, U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey, WDNR Wisconsin Wetland Inventory (WWI) mapping, and aerial photography.

On-site wetland determinations were made using the three criteria (vegetation, soil, and hydrology) and technical approach defined in the USACE 1987 Manual and applicable Regional Supplement. According to procedures described in the 1987 Manual and applicable Regional Supplement, areas that under normal circumstances reflect a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology (e.g., inundated or saturated soils) are considered wetlands.

Additionally, as climate plays an important role in the formation and identification of wetlands, the antecedent precipitation in the months leading up to the field investigations was reviewed. The current year's precipitation data was compared to long-term (30-year) precipitation averages and standard deviation to determine if precipitation was normal, wet, or dry for the area using a WETS analysis as developed by the NRCS.

A review of U.S. Department of Agriculture Farm Service Agency (FSA) annual aerial slides and photographs was conducted for the Property to assist in the wetland determination because farmed areas with mapped poorly drained or somewhat poorly drained soils are present on the Property. The aerial photographs were reviewed for the appearance of wetland signatures. A wetland signature is field evidence, recorded by a photograph, of ponding, flooding, or impacts of saturation for sufficient duration, which meets wetland hydrology and possibly wetland vegetation criteria. Wetland signatures in cropland for Wisconsin are as follows (NRCS 1998):

- 1. Hydrophytic vegetation (seen as a different color of green)
- 2. Surface water (usually black or white)
- 3. Drowned-out crops (bare soil or mud flats)
- 4. Differences in color due to different planting dates or isolated areas not farmed with the rest of the field
- 5. Inclusions of wet areas in set-aside program
- 6. Patches of greener color in "dry" years
- 7. Crop stress (yellow) or sparse canopy (light green)
- 8. Saturated soil visible on infrared (IR) slides or photos

The antecedent precipitation in the months leading up to each annual crop slide was reviewed and compared to long-term (30-year) precipitation averages and standard deviation to determine if each year was normal, wet, or dry using a WETS analysis (Appendix D).



Clark Property Wetland Delineation METHODS

December 15, 2014

Mapped poorly and somewhat poorly drained soils were identified on the Property and the annual crop slides were analyzed for signatures of wetness consistency in these areas (FSA Aerial Slide Analysis in Appendix E). Areas within agricultural fields are typically identified as wetland if they contain hydric soils and 50% or more of the aerial photographs taken in the five (or more) most recent normal precipitation years show any of the wetland signatures listed above. However, while the focus of the analysis is on wetland signatures visible in normal precipitation years, years considered wet or dry for received precipitation were also analyzed. Wetland determinations and wetland boundaries are identified based on the photograph having the largest wetland boundary during a "normal" rainfall year if signatures were apparent in at least 50% of the years (NRCS 1998).

The uppermost wetland boundary and sampling points were identified and surveyed with a Global Positioning System (GPS) capable of sub-meter accuracy and mapped using Geographical Information System (GIS) software.



Clark Property Wetland Delineation RESULTS December 15, 2014

# 3.0 RESULTS

# 3.1 SITE DESCRIPTION

The Property is comprised of a large agricultural field served by a central-pivot irrigation system with small agricultural fields to east of the extent of the irrigation system. The Property is flat, sloping to the southeast averaging approximately 725 feet mean sea level (msl) across the site. The Property is bordered by Big Hollow Road to the west, CTH G to the north, and agricultural fields to the south and east.

Soils mapped on the Property by the NRCS *Soil Survey of Sauk County* include Dakota loam (DaA), Gotham loamy sand (GoB), Pillot silt loam (PcA), Plainfield loamy sand (PfB, PfC), Sparta loamy sand (SpB), Sparta variant loamy sand (St), Toddville silt loam (TvA), and Watseka loamy sand (Wt)(Appendix A, Figure 2). According to the NRCS List of Hydric Soils for Sauk County, the Watseka series may contain hydric inclusions. Wetlands identified during the field investigation are located primarily within areas mapped as having the potential to contain hydric inclusions.

The Wisconsin Wetland Inventory (WWI) map does not identify any wetlands within the Property or adjacent properties (Appendix A, Figure 3). The field delineated wetland (W-1) is not identified on the WWI map (Appendix A, Figure 4).

Average precipitation for the investigation area was obtained from the Lone Rock Tri-County Airport weather station (NWS station #WI921), located in Lone Rock, WI and used for the WETS analysis. Based on the WETS analysis, conditions were wetter than normal (Appendix D).

# 3.2 SITE HISTORY

The Property has been in agricultural row crop production for decades and generally is productive. The Property is currently utilized for commercial production of soy beans and corn. In recent years (2008) primarily) the Property was subjected to extensive flooding as a result of heavy rainfall, significant surface inflows from the up gradient bluffs and valleys, and a significantly elevated groundwater table. Surface and groundwater impacts were widespread in the area during that time and a substantial portion of the Village of Spring Green, just down gradient from the site, as well as the Township of Spring Green experienced historic flooding events. As a result of these events, a regional drainage ditch was constructed commencing in the southeast corner of the subject Property, ultimately draining to the Wisconsin River due south of the Property. Additionally, a stormwater detention basin was constructed in the northwest corner of the Property. Both the regional drainage ditch and stormwater detention basin were carried out by Sauk County through easement agreements. More recently, through unrelated land use permit requirements obtained by Mr. Clark from Sauk County, Mr. Clark was required to construct a drainage ditch through the subject Property to connect the detention basin to the regional drainage ditch. Mr. Clark worked with the County and NRCS to gain approvals for construction of the ditch. WDNR (Jeff Schure) contacted Mr. Clark regarding construction of the ditch, after-the-fact, requesting completion of a wetland determination within the vicinity of the constructed ditch in order to document whether construction was completed in jurisdictional wetlands.

# 3.3 WETLANDS

One wetland was identified and delineated within the Property. Wetland determination data forms were completed for six sample points along transects through the wetlands and adjacent uplands and are contained in Appendix B. Photographs of the wetlands and adjacent lands are contained in Appendix C.



Clark Property Wetland Delineation RESULTS December 15, 2014

The wetland boundary and sample point locations are shown on Figure 4 (Appendix A). The wetland is summarized in Table 1 and described in detail in the following section.

Table 1. Summary of Wetlands Identified within the Property

Wetland	Wetland Type	Adjacent Surface Waters	Acreage (on-site)
Wetland 1 (W-1)	Farmed Wetland	No inlets/outlets observed	1.11 acres

# 3.3.1 Wetland 1

Wetland 1 (W-1) is a farmed wetland located within a depression dominated by annual weed species within an active agricultural field. The wetland appeared to be contained on-site with no direct inlets or outlets to surface water bodies observed.

# Vegetation

Dominant plant species identified at sample point P-5 completed within W-1 consist of barnyard grass (*Echinochloa crus-galli*, FACW) and bald spike-rush (*Eleocharis erythropoda*). While located within an active agricultural field planted to soybeans (*Glycine* max) in 2014, the dominant species within the wetland are comprised mostly of hydrophytic vegetation (OBL, FACW, and/or FAC) and meet the hydrophytic vegetation criterion.

# Hydrology

The wetland appears to have a seasonally inundated/saturated hydroperiod. The wetland was identified as a problem area due to the seasonal nature of the hydroperiod and lack of primary hydrology indicators observed during the evaluation. However, secondary indicators of wetland hydrology included Geomorphic Position (D2) and a positive FAC-Neutral Test (D5). Therefore, the wetland hydrology criterion was met.

### Soils

Soils within the wetland are mapped by the NRCS as Watseka loamy sand (Appendix A, Figure 2). The Watseka series consists of very deep, somewhat poorly drained soils formed in sandy outwash. The soils observed at the sample points were generally inconsistent with the Watseka series characteristics. However, the Property has been subject to large-scale flooding which likely has deposited new soil materials during flood events and disturbances from agricultural activities also effects the soil characteristics. Regardless, field indicators of hydric soil were observed and consisted of NRCS field Indicators A11 – Depleted Below Dark Surface and F3-Depleted Matrix. Therefore, the hydric soil criterion was satisfied.

# Wetland Boundary

The wetland boundary was determined based on distinct differences in vegetation, hydrology, soils, and topography consisting of the following: 1) Transition from a farmed wetland community dominated by barnyard grass and bald spike-rush to a farmed upland community not exhibiting crop stress or the presence of hydrophytic weed species; 2) Transition from an area exhibiting hydrology indicators to areas lacking wetland hydrology indicators within the adjacent upland; and 3) Transition from poorly drained hydric soils to somewhat poorly drained non-hydric soils. The transition from wetland to upland characteristics generally correlated with a subtle topographic break.



Clark Property Wetland Delineation RESULTS December 15, 2014

# 3.4 UPLAND

Upland within the Property consisted of farmed upland planted to soybeans in 2014. The soybean crop had been harvested by the time the field investigation was conducted; however, where annual weed species were observed, overall cover was limited and species were mostly non-hydrophytes. As the Property is in agricultural production, an FSA slide review was completed prior to the field investigation. Based on review of several FSA slides dating back to 1985, the Property has been subject to numerous flooding events which have resulted in inundated conditions at various times. As a result, evidence of wetland signatures within the central portion of the site were observed in most years in review of the FSA slides. While much of the site appears to be subject to flooding, wetland characteristics that would indicate that conditions within the Property are wet enough for a long enough period of time to support wetland development were lacking. Field investigations confirmed a lack of wetland hydrology and hydric soil indicators and hydrophytic weedy species within the majority of the area identified as potential wetland in the FSA slide review. Therefore, farmed uplands within the Property were determined to be non-wetland regardless of observed wetness signatures in the FSA slide review due to the lack of wetland hydrology indicators observed in the field, the lack hydric soil indicators, and the lack of dominance by weedy annual hydrophytes.

# 3.5 OTHER ENVIRONMENTAL CONSIDERATIONS

This report is limited to the identification of state and/or federally regulated wetlands within the Property. However, there may be other regulated environmental features within the Property, including, but not limited to, historical or archeological features, endangered or threatened species, navigable waters and/or floodplains, etc. Federal, state, and local units of government and regional planning organizations may have regulatory authority to control or restrict land uses within or in close proximity to these features. Stantec can assist with identification and/or assessment of additional regulated resources at your request, to the extent that the work is within our range of expertise.

Specifically, in the state of Wisconsin, Wis. Adm. Code NR 151.12 requires that a "protective area" or buffer be determined from the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands. In accordance with NR 151.12, the width of the "protective buffer" for less susceptible wetlands are determined by using 10% of the average wetland width, no less than 10 feet or more than 30 feet. Lakes, perennial and intermittent streams, and highly susceptible wetlands and wetlands in areas of special natural resource interest may require buffers of 50 and 75 feet, respectively. The wetland identified on the Property is dominated by invasive plant species, specifically barnyard grass. Therefore, based on the "protective buffer" standards provided by NR 151.12, it is Stantec's professional opinion that the wetland meets the criteria for less susceptible wetlands and the buffer from the wetland boundary would be 10 to 30 feet. However, the jurisdictional authority on wetland buffers rests with the WDNR. The local unit of government and/or regional planning organization may have more restrictive buffers from wetlands than that imposed under NR 151.



Clark Property Wetland Delineation CONCLUSION December 15, 2014

# 4.0 CONCLUSION

Stantec performed a wetland determination and delineation of the Clark property on behalf of Dale Clark. The approximately 280-acre Property is located in Section 2, Township 8 North, Range 3 East, in the Town of Spring Green, Sauk County, Wisconsin. The purpose and objective of the wetland determination and delineation was to identify the extent and spatial arrangement of wetlands within the Property.

One wetland was identified and delineated within the Property in accordance with state and federal guidelines and was subsequently surveyed with a GPS and mapped using GIS software. There were a combined total of 1.11 acres of wetlands on the Property. Wetlands were mostly composed of farmed wetland. Adjacent uplands were composed of agricultural lands.

The USACE has regulatory authority over Waters of the U.S. including adjacent wetlands, and the WDNR has regulatory authority over wetlands, navigable waters, and adjacent lands under Chapters 30 and 281 Wisconsin State Statutes, and Wisconsin Administrative Codes NR 103, 299, 350 and 353. Finally counties, townships and municipalities may have local zoning authority over certain types of wetlands and waterways.

Prior to beginning work at this site or disturbing or altering wetlands, waterways, or adjacent lands in any way, Stantec recommends that the owner obtain the necessary permits or other agency regulatory review and concurrence with regard to the proposed work to comply with applicable regulations. Stantec can assist with identification and/or assessment of additional regulated resources at your request, to the extent that the work is within our range of expertise.

The information provided by Stantec regarding wetland boundaries is a scientific-based analysis of the wetland and upland conditions present on the site at the time of the fieldwork. The delineation was performed by experienced and qualified professionals using standard practices and sound professional judgment. The ultimate decision on wetland boundaries rests with the USACE and, in some cases, the WDNR or a local unit of government. As a result, there may be adjustments to boundaries based upon review by a regulatory agency. An agency determination can vary from time to time depending on various factors including, but not limited to recent precipitation patterns and the season of the year. In addition, the physical characteristics of the site can change over time, depending on the weather, vegetation patterns, drainage activities on adjacent parcels, or other events. Any of these factors can change the nature and extent of wetlands on the site.



Clark Property Wetland Delineation REFERENCES December 15, 2014

# 5.0 REFERENCES

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Clark Property Wetland Delineation REFERENCES December 15, 2014

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Clark Property Wetland Delineation Appendix A– Figures December 15, 2014

# Appendix A - Figures

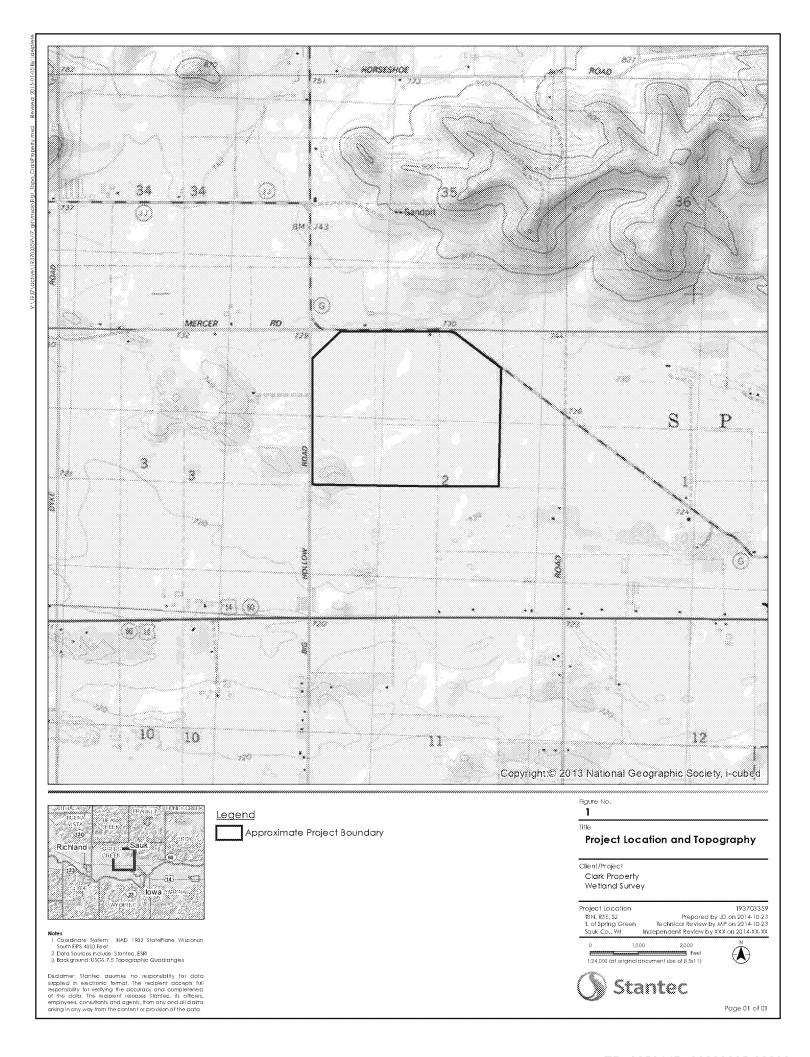
Figure 1. Project Location and Topography

Figure 2. NRCS Soil Survey Data

Figure 3. Wisconsin Wetland Inventory

Figure 4. Field Collected Data







Notes
1, Coordinate System: NAD 1983 StatePlane Wisconsin. South FIPS 4800 Feet
2. Data Sources Include: Stantec, WDOT, WDNR, NRCS
3. Orthophotography: 2013 NAP

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

DNR 24k Hydrography\*

🍒 Perennial Stream 🖍 👡 Intermittent Stream

Waterbody

\*Not Visible in Data Frame

T8N, R3E, S2 T. of Spring Green Sauk Co., WI

Prepared by JD on 2014-10-23 Technical Review by MP on 2014-10-23 Independent Review by XXX on 2014-XX-XX











Notes
1, Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec, WDOT, WDNR
3. Orthophotography: 2013 NAP

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#### <u>Legend</u>

Approximate Project Boundary DNR 24k Hydrography\*

WWI Wetland Class Areas\*

Wetland

\*Not Visible in Data Frame

🧽 Perennial Stream

🚩 👡 Intermittent Stream

Waterbody

3

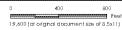
Title

#### **Wisconsin Wetland Inventory**

Client/Project Clark Property Wetland Survey

Project Location 18 N, R3E, S2 T. of Spring Green Sauk Co., WI

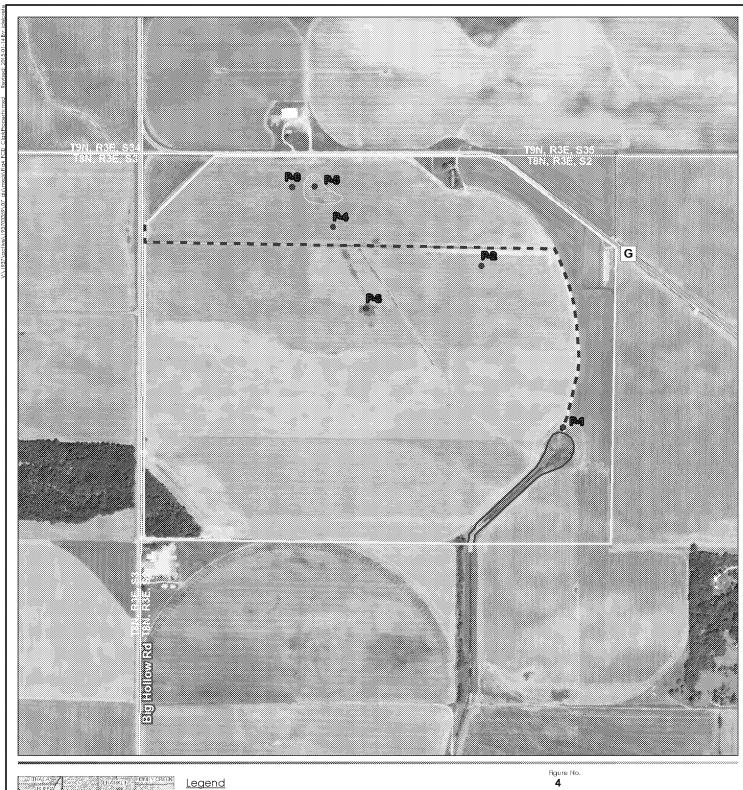
Prepared by JD on 2014-10-23 Technical Review by MP on 2014-10-23 Independent Review by XXX on 2014-XX-XX

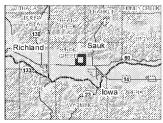




193703359







- Notes
  1. Coordinate System: NAD 1983 StatePlane Wisconsouth FPS 4803 Feet
  2. Data Sources Include: Stantec, WDOT, WDNR
  3. Orthophotography: 2013 NAIP

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Approximate Project Boundary

- Sample Points
- Recently Excavated Ditch
- Regional Drainage Ditch
  - Field Delineated Wetland

DNR 24k Hydrography\*

→ Perennial Stream

🚄 👡 Intermittent Stream

Waterbody

\*Not Visible in Data Frame

#### Field Collected Data

Client/Project Clark Property Wetland Survey

Project Location 18N, R3E, S2 T. of Spring Green Sauk Co., WI

Prepared by JD on 2014-12-11 Technical Review by SF on 2014-12-11 Independent Review by JK on 2015-01-08

0 400 800 Feet 1:9,600 (at original document size of 8.5x11)



193703359

Stantec

#### WETLAND DELINEATION REPORT

Clark Property Wetland Delineation Appendix B– Wetland Determination Data Forms December 15, 2014

### Appendix B – Wetland Determination Data Forms





Project/Site:	Clark Prope	епу					Stantec Project #:	193703359	)	Date:	11/07/14
Applicant:	Dale Clark			1	١٠٠٠ 40.					County:	Sauk
Investigator #1:				Investi	gator #2:		/I/WWI Classification:			State: Wetland ID:	Wisconsin
Soil Unit: Landform:	Watseka lo Talf	allly Sallu		Loc	al Relief:		VI/VV VVI Classification.	300 000 00X		Sample Point:	 D_1
Slope (%):	0-2	Latitude:	N/A		ongitude:			Datum:	N/A	Community ID:	
		itions on the site typ			<u>~</u>		n in remarks)	☐ Yes ☑		Section:	2
		or Hydrology □ sig				(11.11.6)	Are normal circumsta			Township:	8N
		or Hydrology □ nat	-				Yes	□No		Range:	3 Dir: E
SUMMARY OF			,								
Hydrophytic Veg	getation Pres	sent?		☐ Yes	☑ No			Hydric Soils	Present?		□ Yes ☑ No
Wetland Hydrol				□ Yes					***************************************	Within A Wetla	and? □ Yes ☑ No
Remarks:	Based on a	WETS analysis, co	onditions	were we	tter than i	normal.	Sample point located	in active agric	cultural field	1.	
HYDROLOGY											
Wetland Hydro	ology Indica	itors (Check here if	indicato	rs are no	t present	☑):					
Primary:	-	Matan		·	DO 14/-4-	. 04-:			Secondary:	•	il Ossalia
	A1 - Surface A2 - High Wa			******	B9 - Wate B13 - Aqu					B6 - Surface So B10 - Drainage	
	A3 - Saturation				B14 - True					C2 - Dry-Seaso	
	B1 - Water M				C1 - Hydro					C8 - Crayfish B	
	B2 - Sedimer B3 - Drift Dep	•					spheres on Living Roots duced Iron			C9 - Saturation D1 - Stunted or	Visible on Aerial Imagery Stressed Plants
	B4 - Algal Ma						duction in Tilled Soils			D2 - Geomorph	
	B5 - Iron Dep	osits		*******	C7 - Thin					D5 - FAC-Neutr	al Test
		on Visible on Aerial Ima			D9 - Gaug						
ll	bo - Sparsery	Vegetated Concave S	uriace	Ll	Other (Exp	nam in Ke	marks)				
Field Observat	ions:										
Surface Water I		☐ Yes ☑ No	Depth:		(in.)						
Water Table Pre		☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes ☑ No
Saturation Pres		☐ Yes ☑ No	Depth:		(in.)						
Describe Record	ed Data (etre	eam gauge, monitorir				ie inenec	tions) if available:		FSA Slides		
Remarks:		sam gauge, monitorii		prior			tions), il avallable.				
Tromanic.											
SOILS	:	Watseka loamv sar	nd			S	eries Drainage Class:	: somewhat p	oorlv		
SOILS Map Unit Name	***************************************	Watseka loamy sar Aquic Hapludolls	nd			S	eries Drainage Class:	somewhat pe	oorly		
SOILS  Map Unit Name Taxonomy (Sub	group):	Aquic Hapludolls		he absence of in	ndicators.) (Type:					:Pore Lining, M=Matrix)	
SOILS  Map Unit Name Taxonomy (Sub	group):	Aquic Hapludolls		he absence of in <b>Matri</b> x	ndicators.) (Type:		n, D=Depletion, RM=Reduced Matrix, CS			Pore Lining, M=Matrix)	Texture
SOILS Map Unit Name Taxonomy (Sub Profile Descrip	group): tion (Describe to the	Aquic Hapludolls	cator or confirm t		ndicators.) (Type:		n, D=Depletion, RM=Reduced Matrix, CS	S=Covered/Coated Sand G		Pore Lining, M=Matrix)  Location	Texture (e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top	group): otion (Describe to the Bottom	Aquic Hapludolls se depth needed to document the indic	cator or confirm t	Matrix			n, D=Depletion, RM=Reduced Matrix, CS	S=Covered/Coated Sand G	Grains; Location: PL=	γ	-
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top	group): otion (Describe to the Bottom Depth	Aquic Hapludolls se depth needed to document the indic	cator or confirm t	Matrix (Moist)	%	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS	e=Covered/Coated Sand Codox Features	Grains; Location: PL=	γ	(e.g. clay, sand, loam)
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SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7	group):  tion (Describe to the Bottom Depth 7 14	Aquic Hapludolls  e depth needed to document the indice  Horizon  1 2	Color 10YR 2.5Y	Matrix (Moist) 3/2 4/4	% 100 100	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	S=Covered/Coated Sand Good Features	Type	γ	(e.g. clay, sand, loam) loamy sand loamy sand
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7	group): tion (Describe to the Bottom Depth 7 14 24	Aquic Hapludolls  e depth needed to document the indice  Horizon  1 2	Color 10YR 2.5Y 2.5Y	Matrix (Moist) 3/2 4/4 4/3	% 100 100 100	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	S=Covered/Coated Sand Cook Features	Type	γ	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7	group):  tion (Describe to the Bottom Depth 7 14 24	Aquic Hapludolls  e depth needed to document the indice  Horizon  1 2	Color 10YR 2.5Y 2.5Y	Matrix (Moist) 3/2 4/4 4/3	% 100 100 100 	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	S=Covered/Coated Sand Good Features %	Type	γ	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7	group):  tion (Describe to the Bottom Depth 7 14 24	Aquic Hapludolls  e depth needed to document the indice  Horizon  1 2	Color 10YR 2.5Y 2.5Y	Matrix (Moist) 3/2 4/4 4/3	% 100 100 100 	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	S=Covered/Coated Sand Good	Type	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7 14	group):  tion (Describe to the Bottom Depth 7 14 24	Aquic Hapludolls  e depth needed to document the indice  Horizon  1  2  3	Color 10YR 2.5Y 2.5Y	Matrix (Moist) 3/2 4/4 4/3 	% 100 100 100   	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	S=Covered/Coated Sand Good Features %	Type	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip  Top Depth  0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom) Depth 7 14 24 Soil Field In	Aquic Hapludolls  e depth needed to document the indice  Horizon  1 2	Color 10YR 2.5Y 2.5Y	Matrix (Moist) 3/2 4/4 4/3 cators are	% 100 100    e not pres	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	S=Covered/Coated Sand Codox Features %	Type  Type  s for Problen	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip  Top Depth  0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom Depth 7 14 24 Soil Field In A1- Histosol	Aquic Hapludolls  e depth needed to document the indice  Horizon  1  2  3   dicators (check he	Color 10YR 2.5Y 2.5Y	Matrix (Moist) 3/2 4/4 4/3 cators are	% 100 100 100    e not pres	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	S=Covered/Coated Sand Codox Features %	Type  Type  s for Problem A16 - Coast	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip  Top Depth  0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom) Depth 7 14 24 Soil Field In	Aquic Hapludolls  e depth needed to document the indice  Horizon  1 2 3 dicators (check helpipedon	Color 10YR 2.5Y 2.5Y	Matrix (Moist) 3/2 4/4 4/3 cators are	% 100 100    e not pres	c=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	S=Covered/Coated Sand Good Features % Indicators	Type  Type  s for Problen  A16 - Coast S7 - Dark S6	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom) Depth 7 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge	Aquic Hapludolls  e depth needed to document the indice  Horizon  1 2 3 dicators (check helpipedon stice in Sulfide	Color 10YR 2.5Y 2.5Y	Matrix (Moist) 3/2 4/4 4/3 cators are	% 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam	c=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	E=Covered/Coated Sand Good Features % Indicators	Type  Type  s for Problen A16 - Coast S7 - Dark Si F12 - Iron-M TF12 - Very	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom) Depth 7 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified	Aquic Hapludolls e depth needed to document the indice  Horizon  1 2 3 dicators (check here bipedon stic n Sulfide I Layers	Color 10YR 2.5Y 2.5Y	Matrix (Moist) 3/2 4/4 4/3 cators are	% 100 100 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	E=Covered/Coated Sand Good Features % Indicators	Type  Type  s for Problen A16 - Coast S7 - Dark Si F12 - Iron-M TF12 - Very	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom Depth 7 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M	Aquic Hapludolls  e depth needed to document the indice  Horizon  1  2  3   dicators (check helpoipedon stice in Sulfide it Layers uck	Color 10YR 2.5Y 2.5Y re if indic	Matrix (Moist) 3/2 4/4 4/3 cators are	% 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam	c=Concentratio	Record (Moist)	E=Covered/Coated Sand Good Features % Indicators	Type  Type  s for Problen A16 - Coast S7 - Dark Si F12 - Iron-M TF12 - Very	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom Depth 7 14 24	Aquic Hapludolls e depth needed to document the indice  Horizon  1 2 3 dicators (check here bipedon stic n Sulfide I Layers uck ed Below Dark Surface park Surface	Color 10YR 2.5Y 2.5Y re if indic	Matrix (Moist) 3/2 4/4 4/3 cators are	% 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple	c=Concentration  c=Conc	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	E=Covered/Coated Sand Good Features % Indicators	Type  Type  s for Problen A16 - Coast S7 - Dark Si F12 - Iron-M TF12 - Very	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom Depth 7 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Aquic Hapludolls  e depth needed to document the indice  Horizon  1 2 3 dicators (check here  bipedon stic n Sulfide I Layers uck ed Below Dark Surface bark Surface luck Mineral	Color 10YR 2.5Y 2.5Y re if indic	Matrix (Moist) 3/2 4/4 4/3 cators are	% 100 100 100 e not pres \$4 - Sand \$5 - Sand \$5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo	c=Concentratio	Color (Moist)	e=Covered/Coated Sand Good Features % Indicators	Type  Type  s for Problen A16 - Coast S7 - Dark Si F12 - Iron-N TF12 - Very Other (Expla	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es urface
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom Depth 7 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Aquic Hapludolls e depth needed to document the indice  Horizon  1 2 3 dicators (check here bipedon stic n Sulfide I Layers uck ed Below Dark Surface park Surface	Color 10YR 2.5Y 2.5Y re if indic	Matrix (Moist) 3/2 4/4 4/3 cators are	% 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	c=Concentratio	Color (Moist)	S=Covered/Coated Sand Cook Features  % Indicators  Indicators  Indicators	Type  Type	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es urface
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom Depth 7 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Aquic Hapludolls  e depth needed to document the indice  Horizon  1 2 3 dicators (check here  bipedon stic n Sulfide I Layers uck ed Below Dark Surface eark Surface lark Surface luck Mineral cky Peat or Peat	Color 10YR 2.5Y 2.5Y re if indic	Matrix (Moist)  3/2  4/4  4/3    cators are	% 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	c=Concentratio	Color (Moist)	e=Covered/Coated Sand Good Features % Indicators	Type  Type	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es urface
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip  Top Depth  0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom Depth 7 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm Mu	Aquic Hapludolls  e depth needed to document the indice  Horizon  1 2 3 dicators (check here  bipedon stic n Sulfide I Layers uck ed Below Dark Surface eark Surface lark Surface luck Mineral cky Peat or Peat	Color 10YR 2.5Y 2.5Y re if indic	Matrix (Moist)  3/2  4/4  4/3    cators are	% 100 100 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	c=Concentratio	Color (Moist)	S=Covered/Coated Sand Cook Features  % Indicators  Indicators  Indicators	Type  Type	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es urface
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom Depth 7 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm Mu	Aquic Hapludolls  e depth needed to document the indice  Horizon  1 2 3 dicators (check here  bipedon stic n Sulfide I Layers uck ed Below Dark Surface eark Surface lack Mineral cky Peat or Peat	Color 10YR 2.5Y 2.5Y re if indic	Matrix (Moist)  3/2  4/4  4/3    cators are	% 100 100 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	c=Concentratio	Color (Moist)	S=Covered/Coated Sand Cook Features  % Indicators  Indicators  Indicators	Type  Type	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es urface
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 7 14 NRCS Hydric S	group):  tion (Describe to the Bottom Depth 7 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm Mu	Aquic Hapludolls  e depth needed to document the indice  Horizon  1 2 3 dicators (check here  bipedon stic n Sulfide I Layers uck ed Below Dark Surface eark Surface lack Mineral cky Peat or Peat	Color 10YR 2.5Y 2.5Y re if indic	Matrix (Moist)  3/2  4/4  4/3    cators are	% 100 100 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	c=Concentratio	Color (Moist)	S=Covered/Coated Sand Cook Features  % Indicators  Indicators  Indicators	Type  Type	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es urface



Project/Site:	Clark Property				Wetland ID: Sample Point <b>P-1</b>
VEGETATION	(Species identified in all uppercase are non-na	ative spec	ies.)		
Tree Stratum (Plo	ot size: 30 ft radius)				
	<u>Species Name</u>	% Cover	<u>Dominant</u>	Ind.Status	Dominance Test Worksheet
1.		000 500	300 000	300 cm	
2.	st 100	son nor	non son	eer see	Number of Dominant Species that are OBL, FACW, or FAC:(A)
3.	•	000 100	200 600	200 600	
4.		100 601	our ton	00K 10M	Total Number of Dominant Species Across All Strata:0 (B)
5.		00K 50B	300 604	300 600	, and the state of
6.		x00 604	00K 50G	60K 30K	Percent of Dominant Species That Are OBL, FACW, or FAC: NA (A/B)
7.		000 000	300 809	200 000	
8.		100 604	our ton	00E 10E	Prevalence Index Worksheet
9.		00K 50B	300 604	300 600	Total % Cover of: Multiply by:
10.		200 000	nor son	600 S000	OBL spp. 0
	Total Cover =	. 0			FACW spp. 0 x 2 = 0
					FAC spp. 0 x 3 = 0
Sapling/Shrub Stra	atum (Plot size: 15 ft radius)				FACU spp 0 x 4 = 0
1.		AAA 50A	900 200	wa 200	UPL spp 0
2.		900 VO	ANY 1000	w	
3.		AAR 504	100 100	100 100	Total0 (A)(B)
4.	on two	100 100	00F 100F		
5.	on our	000 000	100 100	VOD 1000	Prevalence Index = B/A =
6.	701 TON	100,100	000 TOM		
7.	on our	000 TOO	100 100	VOD 1000	
8.	701 TON	100,100	000 TOM	eer 100	Hydrophytic Vegetation Indicators:
9.	401.600	nor non	900 900	wa wa	☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
10.	acr acr	100 1001	one tool	ane 1000	☐ Yes ☑ No Dominance Test is > 50%
	Total Cover =	0			☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
					☐ Yes ☑ No Morphological Adaptations (Explain) *
Herb Stratum (Plo	t size: 5 ft radius)				☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *
1.	on an	ADDO NOM	60K 900	00K 900	* Indicators of hydric soil and watland hydrology must be
2.		60K 900	aus nous	200 1008	* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3.		NAME TO A	6001 5000	60X 90X	procent, amos distance of procentation
4.		000,000	200 500	200 502	Definitions of Vegetation Strata:
5.	40 AM	AND 1000	60A 200	00A 200	
6	40 VA	900,900	ALC 100		Tree - Woody plants 3 in. (7.6cm) or more in diameter at
7.	40 AM	A00 A00	WA 200	WAX 2000	breast height (DBH), regardless of height.
8.					
9.	an an	,000 NOS			Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.					ft. tall.
11.	as as	NAME TO BE	600 900	900 900	
12.		900 900	200 100	200 1001	Herb - All herbaceous (non-woody) plants, regardless of size,
13.		AND 1000	60A 200	WA 200	and woody plants less than 3.28 ft. tall.
14.	80 UA	WA 200	200 100		
15.		ALCO ALCO	wa sw	wa sw	Woody Vines - All woody vines greater than 3.28 ft. in height.
	Total Cover =	: 0			
		-			
Woodv Vine Strati	um (Plot size: 30 ft radius)				
1.		900 pos	200 500		
2.	40 AM	AUG 100A	wa sw		
3.		904 909	300 100	A00 100A	Hydrophytic Vegetation Present ☐ Yes ☑ No
4.	an ra	NO 100	60A 200	WA 200	,
5.			200 500		
<u> </u>	Total Cover =	: 0			
Remarks:			planted to	soybean	ns in 2014; crop had been harvested at time of field investigation. No hydrophytic

## **Additional Remarks:**

Sample point located in active agricultural field, harvested at the time of field investigations. Evidence of wetland hydrology, hydric soil indicators, and hydrophytic vegetation were not observed.



Project/Site:	Clark Prope	erty					Stantec Project #:	193703359		Date:	11/07/14
Applicant:	Dale Clark									County:	Sauk
Investigator #1:				Invest	igator #2:		///////// Olassification		***************************************	State:	Wisconsin
Soil Unit:	Watseka lo Talf	amy sand		Loc	cal Relief:		/I/WWI Classification:	300 600 000		Wetland ID:	D 2
Landform: Slope (%):	0-2	Latitude:	NI/A		ongitude:			Datum:	NI/A	Sample Point: Community ID:	
<u> </u>		litions on the site ty					n in remarks)	☐ Yes ☑		Section:	2
		or Hydrology □ sig				(II 110, expla	Are normal circumsta			Township:	8N
		or Hydrology □ sig or Hydrology □ nat	•				✓ Yes	□No		Range:	3 Dir: E
SUMMARY OF		or riyarology nat	arany pro	obiomati	<b>.</b>					Trange.	O Dil. bees
Hydrophytic Ve		sent?		□ Yes	. ☑ No			Hydric Soils	Present?		□ Yes ☑ No
Wetland Hydrol				☐ Yes						Within A Wetla	
Remarks:			nditions				Sample point located				
		•						_			
HYDROLOGY											
Wetland Hydr	ology Indica	ntors (Check here if	indicato	rs are no	ot present	য়ে):					
Primary		(01100111101011	maioato		or procent	······ /•			Secondary:		
	A1 - Surface				B9 - Wate					B6 - Surface So	
	A2 - High Wa A3 - Saturation				B13 - Aqu B14 - True					B10 - Drainage	
	B1 - Water M				C1 - Hydro					C2 - Dry-Season C8 - Crayfish Bu	
	B2 - Sedimer						spheres on Living Roots			_	Visible on Aerial Imagery
	B3 - Drift Dep			********	C4 - Prese				Annual Contract Contr	D1 - Stunted or	
	B4 - Algal Ma B5 - Iron Dep			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	C6 - Rece		duction in Tilled Soils			D2 - Geomorphi D5 - FAC-Neutra	
	•	on Visible on Aerial Ima	agerv	********	D9 - Gaug				<b></b>	D3 - FAC-Neutr	ai rest
		Vegetated Concave S			Other (Ex	•					
Field Observat	tions:										
Surface Water	Present?	☐ Yes ☑ No	Depth:		(in.)			Watland Hw	drology Br	ocont?	Vos 🗆 No
Water Table Pr	esent?	☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	urology Fi	eseilt.	Yes ☑ No
Saturation Pres	sent?	☐ Yes ☑ No	Depth:		(in.)						
Describe Record	ded Data (stre	eam gauge, monitorir	ng well, a	erial phot	tos, previo	us inspec	tions), if available:		FSA Slides		
Remarks:							ed on FSA slide review	N.			
	, ,	,		0	9						
SOILS											
Map Unit Name	<b>e</b> :	Watseka loamy sar	nd			S	eries Drainage Class:	: somewhat po	oorly		
Taxonomy (Sub		Aquic Hapludolls									
	ntion (										
		ne depth needed to document the indic	cator or confirm t	the absence of i	ndicators.) (Type:	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS		Grains; Location: PL=	Pore Lining, M=Matrix)	
Тор	Bottom			Matrix		C=Concentratio	Red	dox Features			Texture
Top Depth		ne depth needed to document the indic	Color	Matrix (Moist)	%	C=Concentratio			Grains; Location: PL=	Pore Lining, M=Matrix)  Location	Texture (e.g. clay, sand, loam)
Depth 0	Bottom Depth 6	Horizon 1	Color 2.5Y	Matrix (Moist) 3/3	% 100	C=Concentratio	Red	dox Features			4
Depth 0 6	Bottom Depth 6 14	Horizon 1 2	Color 2.5Y 2.5Y	Matrix (Moist) 3/3 2/1	% 100 100		Red	dox Features %	Туре		(e.g. clay, sand, loam)
Depth 0	Bottom Depth 6	Horizon 1	Color 2.5Y	Matrix (Moist) 3/3	% 100		Color (Moist)	dox Features %	Type		(e.g. clay, sand, loam) loamy sand
Depth 0 6	Bottom Depth 6 14	Horizon 1 2	Color 2.5Y 2.5Y	Matrix (Moist) 3/3 2/1	% 100 100		Color (Moist)	dox Features %	Type	Location 	(e.g. clay, sand, loam) loamy sand loamy sand
Depth 0 6 14	Bottom Depth 6 14 24	Horizon 1 2	Color 2.5Y 2.5Y	Matrix (Moist) 3/3 2/1 4/4	% 100 100 100		Color (Moist)	dox Features %	Type	Location  	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
Depth 0 6 14	Bottom Depth 6 14 24	Horizon 1 2	Color 2.5Y 2.5Y 2.5Y	Matrix (Moist) 3/3 2/1 4/4	% 100 100 100 		Color (Moist)	dox Features %	Type	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
Depth 0 6 14	Bottom Depth 6 14 24	Horizon 1 2 3	Color 2.5Y 2.5Y 2.5Y	Matrix (Moist) 3/3 2/1 4/4 	% 100 100 100 		Color (Moist)	dox Features %	Type	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
Depth 0 6 14	Bottom Depth 6 14 24	Horizon 1 2 3	Color 2.5Y 2.5Y 2.5Y	Matrix (Moist) 3/3 2/1 4/4 	% 100 100 100  		Color (Moist)	dox Features %	Type	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In	Horizon  1 2 3	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4     cators ar	% 100 100 100 e not pres	    sent 🗹	Color (Moist)	dox Features % Indicators	Type	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol	Horizon  1 2 3 dicators (check he	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4     cators ar	% 100 100 100 e not pres	     sent ☑ )	Color (Moist)	dox Features % Indicators	Type  s for Probler A16 - Coast	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol A2 - Histic Ep	Horizon  1 2 3 dicators (check he	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist) 3/3 2/1 4/4 cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand	sent ☑ ) y Gleyed   y Redox	Color (Moist)	dox Features % Indicators	Type  s for Probler A16 - Coast S7 - Dark S	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi	Horizon  1 2 3 dicators (check he	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4     cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand S6 - Stripp	sent 🗹 ) y Gleyed on y Redox on the matrix	Color (Moist)	dox Features % Indicators	Type  s for Probler A16 - Coast S7 - Dark S F12 - Iron-M	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol A2 - Histic Ep	Horizon  1 2 3 dicators (check he	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4     cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand	sent  y Gleyed y Redox ped Matrix my Muck M	Color (Moist)	dox Features % Indicators	Type  s for Probler A16 - Coast S7 - Dark S F12 - Iron-M TF12 - Very	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M	Horizon  1 2 3 dicators (check he bipedon stic en Sulfide d Layers luck	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4     cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple	y Gleyed y Redox ped Matrix y Muck M y Gleyed eted Matrix	Color (Moist)  Matrix  neral Matrix	dox Features % Indicators	Type  s for Probler A16 - Coast S7 - Dark S F12 - Iron-M TF12 - Very	Location  matic Soils <sup>1</sup> Prairie Redox urface langanese Masse Shallow Dark Su	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete	Horizon  1 2 3 dicators (check here) bipedon stic en Sulfide d Layers luck ed Below Dark Surface	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4     cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo	y Gleyed y Redox bed Matrix by Muck M y Gleyed eted Matrix x Dark Su	Color (Moist)	dox Features % Indicators	Type  s for Probler A16 - Coast S7 - Dark S F12 - Iron-M TF12 - Very	Location  matic Soils <sup>1</sup> Prairie Redox urface langanese Masse Shallow Dark Su	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D	Horizon  1 2 3 dicators (check he bipedon stic on Sulfide d Layers luck ed Below Dark Surface Dark Surface	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4     cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	y Gleyed y Redox oed Matrix oy Muck M ny Gleyed eted Matrix ox Dark Su eted Dark	Color (Moist)	dox Features % Indicators	Type  s for Probler A16 - Coast S7 - Dark S F12 - Iron-M TF12 - Very	Location  matic Soils <sup>1</sup> Prairie Redox urface langanese Masse Shallow Dark Su	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Horizon  1 2 3 dicators (check here) bipedon stic en Sulfide d Layers luck ed Below Dark Surface Dark Surface luck Mineral	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4     cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo	y Gleyed y Redox oed Matrix oy Muck M ny Gleyed eted Matrix ox Dark Su eted Dark	Color (Moist)	dox Features % Indicators	Type  s for Probler A16 - Coast S7 - Dark S F12 - Iron-N TF12 - Very Other (Expla	Location	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm Mu	Horizon  1 2 3 dicators (check here) bipedon stic en Sulfide d Layers luck ed Below Dark Surface Dark Surface luck Mineral lucky Peat or Peat	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4    cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	y Gleyed y Redox oed Matrix oy Muck M ny Gleyed eted Matrix ox Dark Su eted Dark	Color (Moist)	dox Features % Indicators  Indicators  Indicators	Type	Location  matic Soils <sup>1</sup> Prairie Redox urface langanese Masse Shallow Dark Su ain in Remarks)	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es urface
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Horizon  1 2 3 dicators (check here) bipedon stic en Sulfide d Layers luck ed Below Dark Surface Dark Surface luck Mineral lucky Peat or Peat	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4     cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	y Gleyed y Redox oed Matrix oy Muck M ny Gleyed eted Matrix ox Dark Su eted Dark	Color (Moist)	dox Features % Indicators	Type	Location  matic Soils <sup>1</sup> Prairie Redox urface langanese Masse Shallow Dark Su ain in Remarks)	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm Mu	Horizon  1 2 3 dicators (check here) bipedon stic en Sulfide d Layers luck ed Below Dark Surface Dark Surface luck Mineral lucky Peat or Peat	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4    cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	y Gleyed y Redox oed Matrix oy Muck M ny Gleyed eted Matrix ox Dark Su eted Dark	Color (Moist)	dox Features % Indicators  Indicators  Indicators	Type	Location  matic Soils <sup>1</sup> Prairie Redox urface langanese Masse Shallow Dark Su ain in Remarks)	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es urface
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm Mu	Horizon  1 2 3 dicators (check here) bipedon stic en Sulfide d Layers luck ed Below Dark Surface Dark Surface luck Mineral lucky Peat or Peat	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4    cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	y Gleyed y Redox oed Matrix oy Muck M ny Gleyed eted Matrix ox Dark Su eted Dark	Color (Moist)	dox Features % Indicators  Indicators  Indicators	Type	Location  matic Soils <sup>1</sup> Prairie Redox urface langanese Masse Shallow Dark Su ain in Remarks)	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es urface
Depth  0 6 14 NRCS Hydric	Bottom Depth 6 14 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm Mu	Horizon  1 2 3 dicators (check here) bipedon stic en Sulfide d Layers luck ed Below Dark Surface Dark Surface luck Mineral lucky Peat or Peat	Color 2.5Y 2.5Y 2.5Y  	Matrix (Moist)  3/3  2/1  4/4    cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	y Gleyed y Redox oed Matrix oy Muck M ny Gleyed eted Matrix ox Dark Su eted Dark	Color (Moist)	dox Features % Indicators  Indicators  Indicators	Type	Location  matic Soils <sup>1</sup> Prairie Redox urface langanese Masse Shallow Dark Su ain in Remarks)	(e.g. clay, sand, loam) loamy sand loamy sand loamy sand es urface



Project/Site:	Clark Property				Wetland ID: Sample Point <b>P-2</b>
VEGETATION	(Species identified in all uppercase are non-nat	tive speci	es.)		
Tree Stratum (Plo	ot size: 30 ft radius)				
A	<u>Species Name</u>	% Cover		Ind.Status	Dominance Test Worksheet
1.			<b>**</b>	20 00	No. 1 (Day 1 at Careller that are ODL FACIAL at FAC. (A)
2.			ess see	est 100	Number of Dominant Species that are OBL, FACW, or FAC:(A)
3.		00X 908	xx cx	X00 600	T : : : : : : : : : : : : : : : : : : :
4.		20 00	ener son		Total Number of Dominant Species Across All Strata:0(B)
5.		002 000	xx cx	X0 00	
6.		<b>200 60</b>	and the	au sa	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
7.		90X 90B	X00 000	300 000	
8.		100 DOI	ear see	00X 30A	Prevalence Index Worksheet
9.		900 900	200 600	300.000	Total % Cover of: Multiply by:
10.			ener son		OBL spp. 0 x 1 = 0
	Total Cover =	0			FACW spp. 0 x 2 = 0
					FAC spp. 0 x 3 = 0
Sapling/Shrub Stra	atum (Plot size: 15 ft radius)				FACU spp. 0 x 4 = 0
1.	60 AM	AN 1041	900 900	MA 10N	UPL spp 0
2.		100 100	ANY 7008		
3.			w. w.	w. m.	Total (A) (B)
4.	600 GO	VAN 1004	eer eer	~ ~	
5.			900 MM	***	Prevalence Index = B/A = NA
6.	600 cm	***		~~~	
7.			wa wa	****	
8.	MA 400	VA 100	eer 100	va	Hydrophytic Vegetation Indicators:
9.	40 AV	000 BOX	900 900	WA 100	☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
10.	500 GA	VA 100	eer eer	~ ~	☐ Yes ☑ No Dominance Test is > 50%
	Total Cover =	0			☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
					☐ Yes ☑ No Morphological Adaptations (Explain) *
Herb Stratum (Plo	t size: 5 ft radius)				☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *
1.	70.700	AND 1984	900 900	WX 200	* Indicators of hydric soil and watland hydrology must be
2.		999 999	200 NM	200 500	* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3.	60.60	100 total	600 500	WAX 1994	procent, amos distance of problematic.
4.		900 HA	200 500	,000 too	Definitions of Vegetation Strata:
5.	69 CM		***		
6		wa see	NO 100	AND 1000	Tree - Woody plants 3 in. (7.6cm) or more in diameter at
7.	## APP		000 000	w. m.	breast height (DBH), regardless of height.
8.		994 994	200 NOA	200 KM	
9.			900, 2000	w.m.	Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.	w.	w.w.	ALC 100		ft. tall.
11.	80 E0	NO 100	oo oo	WA 200	
12.	49 00	98 990	AND 1800	200 1001	Herb - All herbaceous (non-woody) plants, regardless of size,
13.	60 AW	AND 100A	900 900		and woody plants less than 3.28 ft. tall.
14.		ww.			
15.	AN AN		w. m.		Woody Vines - All woody vines greater than 3.28 ft. in height.
10.	Total Cover =	0			
	10141 00001	V			
Moody Vine Strati	um (Plot size: 30 ft radius)				
1	um (Flot size. 30 it radius)	90.20	200 100	200 TODA	
2.					
3.		500 hor			Hydrophytic Vegetation Present ☐ Yes ☑ No
	<b>30.00</b>				nyurophytic vegetation Fresent Lines Mino
<u>4.</u>	<b>***</b>			wa m	
5.	Total Cover -		200 100	AND 1600	
Remarks:	Total Cover =	0 ral field r	-lantad to	l	ns in 2014; crop had been harvested prior to time of field investigation, however
Remarks.				-	by stubble remains. No hydrophytic weedy species observed.

## **Additional Remarks:**

Sample point located in active agricultural field, harvested prior to the time of field investigations. Sample point within area subject to flooding during wet years. However, evidence of wetland hydrology, hydric soil indicators, and hydrophytic vegetation were not observed.



1 a	Clark Prope	erty					Stantec Project #:	193703359	)	Date:	11/07/14
Applicant:	Dale Clark			Investi	antor #0:					County:	Sauk
Investigator #1: Soil Unit:	U. Kraemer Watseka lo	amy sand		investi	gator #2:		/I/WWI Classification:			State: Wetland ID:	Wisconsin
Landform:	Depression	•		Loc	al Relief:			300 000 00X		Sample Point:	
Slope (%):	0-2	Latitude:	N/A		ongitude:		•	Datum:	: N/A	Community ID:	
		itions on the site ty					n in remarks)	☐ Yes ☑		Section:	2
<del></del>		or Hydrology □ sig					Are normal circumsta			Township:	8N
		or Hydrology □ nat	-				Yes	□No		Range:	3 Dir: E
SUMMARY OF											
Hydrophytic Veg	getation Pres	sent?		□ Yes	☑ No			Hydric Soils	Present?		☐ Yes ☑ No
Wetland Hydrol	ogy Present	?		□ Yes	☑ No			Is This Sam	pling Point	Within A Wetla	and? □ Yes ☑ No
Remarks:	Based on a	WETS analysis, co	onditions	were we	tter than	normal.	Sample point located	in active agric	cultural field	1.	
HYDROLOGY											
Wetland Hydro	ology Indica	tors (Check here if	indicato	rs are no	t present	☑):					
Primary:				******					Secondary:		
	A1 - Surface ' A2 - High Wa			******	B9 - Wate B13 - Aqu					B6 - Surface So B10 - Drainage	
	A3 - Saturation				B14 - True					C2 - Dry-Seaso	
	B1 - Water M				C1 - Hydro	ogen Sulfi	de Odor			C8 - Crayfish B	
	B2 - Sedimer	•					spheres on Living Roots				Visible on Aerial Imagery
	B3 - Drift Dep B4 - Algal Ma						duced Iron duction in Tilled Soils			D1 - Stunted or D2 - Geomorph	Stressed Plants
	B5 - Iron Dep			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	C7 - Thin					D5 - FAC-Neutr	
	B7 - Inundatio	on Visible on Aerial Ima			D9 - Gaug	•					
	B8 - Sparsely	Vegetated Concave S	Surface		Other (Exp	olain in Re	marks)				
Field Observat					,, ,						
Surface Water I		☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	l Yes ☑ No
Water Table Pre		☐ Yes ☑ No	Depth:		(in.)				0,		
Saturation Pres	ent?	☐ Yes ☑ No	Depth:		(in.)						
Describe Record	led Data (stre	eam gauge, monitorir	ng well, a	erial phot	os, previo	us inspec	tions), if available:		FSA Slides		
Remarks:	Sample poi	nt within area subje	ct to floo	ding duri	ing wet ye	ears base	ed on FSA slide reviev	V.			
\$ 150 CONTROL OF THE PROPERTY											
Map Unit Name	~~~~~	Watseka loamy sar	nd			S	eries Drainage Class:	somewhat p	oorly		
Taxonomy (Sub	group):	Aquic Hapludolls						•			
Map Unit Name Taxonomy (Sub <b>Profile Descri</b> p	ogroup): otion (Describe to th	Aquic Hapludolls			ndicators.) (Type:		n, D=Depletion, RM=Reduced Matrix, CS	=Covered/Coated Sand 0		Pore Lining, M=Matrix)	Taytura
Map Unit Name Taxonomy (Sub <b>Profile Descrip</b> Top	ogroup): otion (Describe to the Bottom	Aquic Hapludolls e depth needed to document the indic	cator or confirm t	Matrix			n, D=Depletion, RM=Reduced Matrix, CS	S=Covered/Coated Sand Coox Features	Grains; Location: PL=	T	Texture
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	ogroup): otion (Describe to the Bottom Depth	Aquic Hapludolls	cator or confirm t	Matrix (Moist)	%	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS	e=Covered/Coated Sand Cook Features	Grains; Location: PL=	Pore Lining, M=Matrix)  Location	(e.g. clay, sand, loam)
Map Unit Name Taxonomy (Sub <b>Profile Descrip</b> Top	ogroup): otion (Describe to the Bottom Depth 16	Aquic Hapludolls e depth needed to document the indic	Color 2.5Y	Matrix (Moist) 3/2	% 80	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	S=Covered/Coated Sand Cook Features	Grains; Location: PL=	T	(e.g. clay, sand, loam)
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	ogroup):  otion (Describe to the Bottom Depth 16	Aquic Hapludolls e depth needed to document the indice  Horizon  1	Color 2.5Y 2.5Y	Matrix (Moist) 3/2 4/3	% 80 20	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	S=Covered/Coated Sand Cook Features	Grains; Location: PL=	T	(e.g. clay, sand, loam) loam sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16	ogroup):  otion (Describe to the Bottom Depth 16 24	Aquic Hapludolls e depth needed to document the indice  Horizon  1  2	Color 2.5Y 2.5Y 2.5Y	Matrix (Moist) 3/2 4/3 2/1	% 80 20 100	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	S=Covered/Coated Sand Cook Features	Type	T	(e.g. clay, sand, loam) loam sand loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	pgroup):  otion (Describe to the Bottom Depth 16 24 30	Aquic Hapludolls e depth needed to document the indice  Horizon  1	Color 2.5Y 2.5Y 2.5Y 2.5Y	Matrix (Moist) 3/2 4/3	% 80 20	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	S=Covered/Coated Sand Cook Features %	Type	T	(e.g. clay, sand, loam) loam sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16	ogroup):  otion (Describe to the Bottom Depth 16 24	Aquic Hapludolls e depth needed to document the indice  Horizon  1  2	Color 2.5Y 2.5Y 2.5Y	Matrix (Moist) 3/2 4/3 2/1	% 80 20 100 100	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	S=Covered/Coated Sand Cook Features	Type	T	(e.g. clay, sand, loam) loam sand loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16	pgroup):  otion (Describe to the Bottom Depth 16 24 30	Aquic Hapludolls e depth needed to document the indice  Horizon  1   2  3	Color 2.5Y 2.5Y 2.5Y 2.5Y	Matrix (Moist) 3/2 4/3 2/1 3/1	% 80 20 100 100	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	S=Covered/Coated Sand Codox Features %	Type	Location	(e.g. clay, sand, loam) loam sand loam loam loamy
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16	pgroup):  otion (Describe to the Bottom Depth 16 24 30	Aquic Hapludolls e depth needed to document the indice  Horizon  1   2  3	Color 2.5Y 2.5Y 2.5Y	Matrix (Moist) 3/2 4/3 2/1 3/1	% 80 20 100 100	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	S=Covered/Coated Sand Codox Features %	Type	Location	(e.g. clay, sand, loam) loam sand loam loam loamy
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24	ogroup):  otion (Describe to the Bottom Depth 16 24 30	Aquic Hapludolls e depth needed to document the indice  Horizon  1  2  3	Color 2.5Y 2.5Y 2.5Y	Matrix (Moist) 3/2 4/3 2/1 3/1	% 80 20 100 100 	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	S=Covered/Coated Sand Codox Features %	Type	Location	(e.g. clay, sand, loam) loam sand loam loam loamy sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24 NRCS Hydric S	ogroup):  otion (Describe to the Bottom Depth 16 24 30	Aquic Hapludolls e depth needed to document the indice  Horizon  1   2  3	Color 2.5Y 2.5Y 2.5Y	Matrix (Moist) 3/2 4/3 2/1 3/1 cators are	% 80 20 100 100 	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	S=Covered/Coated Sand Codox Features %	Type  Type  s for Problen	Location	(e.g. clay, sand, loam) loam sand loam loam loamy sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24 NRCS Hydric S	Bottom Depth 16 24 30 Soil Field In A1- Histosol A2 - Histic Ep	Aquic Hapludolls e depth needed to document the indice  Horizon  1 2 3 dicators (check he	Color 2.5Y 2.5Y 2.5Y	Matrix (Moist) 3/2 4/3 2/1 3/1 cators are	% 80 20 100 100    e not pres	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	S=Covered/Coated Sand Codox Features %	Type  Type  s for Problen	Location	(e.g. clay, sand, loam) loam sand loam loam loamy sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24 NRCS Hydric S	Bottom Depth 16 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black History	Aquic Hapludolls e depth needed to document the indice  Horizon  1  2  3   dicators (check he sipedon stic	Color 2.5Y 2.5Y 2.5Y	Matrix (Moist)  3/2  4/3  2/1  3/1    cators are	% 80 20 100 100   e not pres S4 - Sand S5 - Sand S6 - Stripp	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	E=Covered/Coated Sand Codox Features % Indicators	Type  Type  s for Problen A16 - Coast S7 - Dark Si F12 - Iron-N	Location	(e.g. clay, sand, loam) loam sand loam loamy sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24 NRCS Hydric S	Bottom Depth 16 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Hydroge	Aquic Hapludolls e depth needed to document the indice  Horizon  1   2  3   dicators (check he bipedon stic n Sulfide	Color 2.5Y 2.5Y 2.5Y	Matrix (Moist)  3/2  4/3  2/1  3/1    cators are	% 80 20 100 100   e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam	c=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	E=Covered/Coated Sand Codox Features %	Type  Type     s for Problen  A16 - Coast S7 - Dark Si F12 - Iron-M TF12 - Very	Location	(e.g. clay, sand, loam) loam sand loam loamy sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24 NRCS Hydric S	Bottom Depth 16 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black History	Aquic Hapludolls e depth needed to document the indice  Horizon  1  2  3   dicators (check he bipedon stic n Sulfide I Layers	Color 2.5Y 2.5Y 2.5Y	Matrix (Moist) 3/2 4/3 2/1 3/1 cators are	% 80 20 100 100   e not pres S4 - Sand S5 - Sand S6 - Stripp	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	E=Covered/Coated Sand Codox Features %	Type  Type     s for Problen  A16 - Coast S7 - Dark Si F12 - Iron-M TF12 - Very	Location	(e.g. clay, sand, loam) loam sand loam loamy sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24 NRCS Hydric S	Bottom Depth 16 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete	Aquic Hapludolls e depth needed to document the indice  Horizon  1   2  3   dicators (check he bipedon stic in Sulfide layers uck ed Below Dark Surface	Color 2.5Y 2.5Y 2.5Y re if indic	Matrix (Moist) 3/2 4/3 2/1 3/1 cators are	% 80 20 100 100 e not pres \$4 - Sand \$5 - Sand \$5 - Sand \$6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo	c=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS Rec Color (Moist)	E=Covered/Coated Sand Codox Features %	Type  Type     s for Problen  A16 - Coast S7 - Dark Si F12 - Iron-M TF12 - Very	Location	(e.g. clay, sand, loam) loam sand loam loamy sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24 NRCS Hydric S	Bottom Depth 16 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D	Aquic Hapludolls e depth needed to document the indice  Horizon  1  2 3  dicators (check he bipedon stic in Sulfide in Layers luck ed Below Dark Surface lark Surface lark Surface	Color 2.5Y 2.5Y 2.5Y re if indic	Matrix (Moist) 3/2 4/3 2/1 3/1 cators are	% 80 20 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	c=Concentratio	Color (Moist)	E=Covered/Coated Sand Codox Features %	Type  Type     s for Problen  A16 - Coast S7 - Dark Si F12 - Iron-M TF12 - Very	Location	(e.g. clay, sand, loam) loam sand loam loamy sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24 NRCS Hydric S	Bottom Depth 16 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M	Aquic Hapludolls e depth needed to document the indice  Horizon  1  2  3   dicators (check he bipedon stic n Sulfide l Layers uck ed Below Dark Surface luck Mineral	Color 2.5Y 2.5Y 2.5Y re if indic	Matrix (Moist) 3/2 4/3 2/1 3/1 cators are	% 80 20 100 100 e not pres \$4 - Sand \$5 - Sand \$5 - Sand \$6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo	c=Concentratio	Color (Moist)	E=Covered/Coated Sand Codox Features %	Type  Type	Location	(e.g. clay, sand, loam) loam sand loam loamy sand es urface
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24 NRCS Hydric S	Bottom Depth 16 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu	Aquic Hapludolls e depth needed to document the indice  Horizon  1 2 3 dicators (check he bipedon stic in Sulfide in Sulfide in Layers in Layers in Layers in Surface in Surface in Key Peat or Peat	Color 2.5Y 2.5Y 2.5Y re if indic	Matrix (Moist) 3/2 4/3 2/1 3/1 cators are	% 80 20 100 100 e not pres \$4 - Sand \$5 - Sand \$5 - Sand \$6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	c=Concentratio	Color (Moist)	S=Covered/Coated Sand Cook Features  % Indicators  Indicators  Indicators	Type  Type	Location	e present, unless disturbed or problematic.
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24 NRCS Hydric S	Bottom Depth 16 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M	Aquic Hapludolls e depth needed to document the indice  Horizon  1 2 3 dicators (check he bipedon stic in Sulfide in Sulfide in Layers in Layers in Layers in Surface in Surface in Key Peat or Peat	Color 2.5Y 2.5Y 2.5Y re if indic	Matrix (Moist) 3/2 4/3 2/1 3/1 cators are	% 80 20 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	c=Concentratio	Color (Moist)	E=Covered/Coated Sand Codox Features %	Type  Type	Location	(e.g. clay, sand, loam) loam sand loam loamy sand es urface
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Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24 NRCS Hydric S	Bottom Depth 16 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu	Aquic Hapludolls e depth needed to document the indice  Horizon  1 2 3 dicators (check he bipedon stic in Sulfide in Sulfide in Layers in Layers in Layers in Layers in Layers in Layers in Surface in Surface in Surface in Karface in Ka	Color 2.5Y 2.5Y 2.5Y re if indic	Matrix (Moist) 3/2 4/3 2/1 3/1 cators are	% 80 20 100 100 e not pres \$4 - Sand \$5 - Sand \$5 - Sand \$6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	c=Concentratio	Color (Moist)	S=Covered/Coated Sand Cook Features  % Indicators  Indicators  Indicators	Type  Type	Location	e present, unless disturbed or problematic.
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 24 NRCS Hydric S	Bottom Depth 16 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu	Aquic Hapludolls e depth needed to document the indice  Horizon  1 2 3 dicators (check he bipedon stic in Sulfide in Sulfide in Layers in Layers in Layers in Layers in Layers in Layers in Surface in Surface in Surface in Karface in Ka	Color 2.5Y 2.5Y 2.5Y re if indic	Matrix (Moist) 3/2 4/3 2/1 3/1 cators are	% 80 20 100 100 e not pres \$4 - Sand \$5 - Sand \$5 - Sand \$6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	c=Concentratio	Color (Moist)	S=Covered/Coated Sand Cook Features  % Indicators  Indicators  Indicators	Type  Type	Location	e present, unless disturbed or problematic.



Project/Site:	Clark Property				Wetland ID: Sample Point <b>P-3</b>
VEGETATION	(Species identified in all uppercase are non-nat	tive speci	ies.)		
Tree Stratum (Plo	ot size: 30 ft radius)			<u> </u>	
A		% Cover	<u>Dominant</u>	Ind.Status	Dominance Test Worksheet
1.		90K 998	200 600	300 000	
2.		100 004	000 000	000 300	Number of Dominant Species that are OBL, FACW, or FAC:1(A)
3.		900 900	300 609	<b>20</b> 00	
4.		100 000	000 000	00x 90x	Total Number of Dominant Species Across All Strata:(B)
5.		00X 000	200 609	300 000	
6.		100 EG	604 996	60x 50x	Percent of Dominant Species That Are OBL, FACW, or FAC:
7.		000 000	300 609		
8.		VOI 004	00K 1998	est 100	Prevalence Index Worksheet
9.		000 000	300.004	300 min	Total % Cover of: Multiply by:
10.		100 000	600 000	60k 50d	OBL spp 0 x 1 = 0
	Total Cover =	0			FACW spp. 10 x 2 = 20
					FAC spp. 0 x 3 = 0
Sapling/Shrub Stra	atum (Plot size: 15 ft radius)				FACU spp. 20 x 4 = 80
1.		nov 1000	500 500	wa wa	UPL spp. 0 $x = 5 = 0$
2.		***			
3.	AD AD		900.000	900.000	Total 30 (A) 100 (B)
4.		100 100	on on	AN 104	
5.	an an		wa wa	***	Prevalence Index = B/A = 3.333
6.				ee see	
7.		ANY 1984	900.000	900 HON	
8.		WA 1974	000 5001		Hydrophytic Vegetation Indicators:
9.					
10.		nor non	900 900	500 S00	
10.	Total Cover =				☐ Yes ☑ No Dominance Test is > 50%
	Total Cover =	0			☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
					☐ Yes ☑ No Morphological Adaptations (Explain) *
Herb Stratum (Plot				FACIL	☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *
1.	THLASPI ARVENSE	20	Y	FACU	* Indicators of hydric soil and wetland hydrology must be
2.	ECHINOCHLOA CRUS-GALLI	10	Υ	FACW	present, unless disturbed or problematic.
3.	~~	NO 100A	60K 50K	w. sw.	
4.					Definitions of Vegetation Strata:
5.				***	
6		990	200 TOOR	200 500	Tree - Woody plants 3 in. (7.6cm) or more in diameter at
7.		NO 100	60K 50K		breast height (DBH), regardless of height.
8.		WA 100	NO. 100		
9.	~~	200 500	600 500	00A 30A	Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
10.			200 000		it. taii.
11.	~~			•••	
12.		999 999	2000 1000	200 500	Herb - All herbaceous (non-woody) plants, regardless of size,
13.		AND 1000	100 DN	w. m.	and woody plants less than 3.28 ft. tall.
14.					
15.	an re-	AND 150A	NAME SIGNA		Woody Vines - All woody vines greater than 3.28 ft. in height.
	Total Cover =	30			
	10.0.	00			
Moody Vine Strati	um (Plot size: 30 ft radius)				
1		994.999	200 500	,000 MON	
2.					
					Undraphytic Vacatation Brasant - Vac - II No
3.		UAN 1990	200 500	380 588	Hydrophytic Vegetation Present ☐ Yes ☑ No
4.			w. w.		
5.	Total Course		, max		
Dl	Total Cover =	0		1 6" 1 1	' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '
Remarks:	but weedy species present were identifia		e agricuiti	urai field p	planted to soybeans in 2014; crop had been harvested at time of field investigation,

## **Additional Remarks:**

Sample point located in active agricultural field, harvested at the time of field investigations. Sample point within area subject to flooding during wet years. However, evidence of wetland hydrology, hydric soil indicators were not observed, and hydrophytic vegetation criteria were not met.



Applicant: Investigator #1:	Dale Clark : J. Kraemer			Invest	igator #2:					County: State:	Sauk Wisconsin
Soil Unit:	Watseka lo				igator nz.		/I/WWI Classification:	x0 00 00		Wetland ID:	10 10 00 11 0 11 1 1 1 1 1 1 1 1 1 1 1
Landform:	Depression	•		Loc	al Relief:	Concav	Э			Sample Point:	P-4
Slope (%):	0-2	Latitude:	N/A	L	ongitude:	N/A		Datum:	N/A	Community ID:	Ag Field
<u> </u>	<u>v</u>	litions on the site ty	•			(If no, expla			No	Section:	2
1		or Hydrology   sig	•				Are normal circumsta	•	t?	Township:	8N
<b>4</b>		or Hydrology 🛚 nat	turally pro	oblemati	c?		Yes	□No		Range:	3 Dir: E
SUMMARY OF											
Hydrophytic Ve				☑ Yes				Hydric Soils			☐ Yes ☑ No
Wetland Hydrol			anditions.	☐ Yes			Comple point leasted	•••••		Within A Wetla	and? ■ Yes ☑ No
Remarks:	based on a	i WE15 analysis, co	maitions	were we	etter than	normai.	Sample point located	in active agric	cultural neic	<b>.</b>	
HYDROLOGY											
		.1 (Ob)				,					
		ators (Check here if	indicato	rs are no	ot present	図):			Cocondon		
Primary	<u>′.</u> A1 - Surface	Water		П	B9 - Wate	r-Stained	Leaves		Secondary:	B6 - Surface So	oil Cracks
	A2 - High Wa				B13 - Aqu				*******	B10 - Drainage	
	A3 - Saturation				B14 - True					C2 - Dry-Seaso	
	B1 - Water M B2 - Sedimer			닖	C1 - Hydro	•	ge Odor spheres on Living Roots			C8 - Crayfish Bu	urrows Visible on Aerial Imagery
	B3 - Drift Dep	•			C4 - Prese					D1 - Stunted or	
	B4 - Algal Ma						duction in Tilled Soils			D2 - Geomorph	
	B5 - Iron Dep	oosits on Visible on Aerial Ima	agen/	*******	C7 - Thin D9 - Gaug				L.J	D5 - FAC-Neutr	al Test
		/ Vegetated Concave S	0 ,		Other (Ex	•					
					` .		,				
Field Observat	tions:										
Surface Water	Present?	☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	osont?	Yes ☑ No
Water Table Pr	esent?	☐ Yes ☑ No	Depth:		(in.)			welland ny	urology Fi	eseill:	1162 N 110
Saturation Pres	sent?	☐ Yes ☑ No	Depth:		(in.)						
Describe Record	ded Data (stre	eam gauge, monitorir	ng well, a	erial phot	os, previo	us insped	tions), if available:		FSA Slides		
Remarks:	Sample poi	nt within area suhie	ct to floo	dina dur	ing wot w	are bee	ad an ECA alida raviav	A /			
		ini witinin area subje	CL LO HOO	ulliy uul	my wet ye	cais pasi	ed on FSA slide reviev	N.			
		int within area subje	ict to noo	ang au	ilig wet ye	5a15 Da5	ed on FSA slide reviev	<i>N</i> .			
SOILS		int within area subje	oct to noo	ding dui	ilig wet ye	ais Das	ed on FSA slide reviev	N.			
Map Unit Name	e:	Watseka loamy sar		ding dui	ing wet ye		ed on FSA slide reviev		oorly		
Map Unit Name Taxonomy (Sub	e: ogroup):	Watseka loamy sar Aquic Hapludolls	nd			S	eries Drainage Class:	: somewhat po			
Map Unit Name Taxonomy (Sub <b>Profile Descrip</b>	e: ogroup): otion (Describe to th	Watseka loamy sar Aquic Hapludolls	nd	the absence of i	ndicators.) (Type:	S	Series Drainage Class:	: somewhat po		Pore Lining, M=Matrix)	T1
Map Unit Name Taxonomy (Sub Profile Descrip	e: ogroup): otion (Describe to the	Watseka loamy sar Aquic Hapludolls	ator or confirm t	the absence of i	ndicators.) (Type:	S	Series Drainage Class: n, D=Depletion, RM=Reduced Matrix, CS Red	: somewhat pos ==Covered/Coated Sand G	Grains; Location: PL=	<b>—</b>	Texture
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	e: ogroup): otion (Describe to the Bottom Depth	Watseka loamy sar Aquic Hapludolls	cator or confirm t	the absence of i Matrix (Moist)	ndicators.) (Type:	C=Concentratio	Series Drainage Class:	: somewhat positions: some	Grains; Location: PL=	Pore Lining, M=Matrix)	(e.g. clay, sand, loam)
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	e: ogroup): otion (Describe to the Bottom Depth	Watseka loamy sar Aquic Hapludolls ne depth needed to document the india Horizon	cator or confirm to Color 2.5Y	the absence of i Matrix (Moist) 2/1	ndicators.) (Type:	C=Concentratio	Series Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS  Red  Color (Moist)	: somewhat possesses sand of the control of the con	Type	Location	(e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11	e: ogroup): otion (Describe to the Bottom Depth 11 24	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indice  Horizon  1 2	cator or confirm to Color 2.5Y 10YR	Matrix (Moist) 2/1 4/2	ndicators.) (Type:	C=Concentratio	Series Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS  Red  Color (Moist)	S=Covered/Coated Sand Good Features	Type	Location 	(e.g. clay, sand, loam) silt loam loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24	e: pgroup): ption (Describe to the Bottom Depth 11 24 30	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indice  Horizon  1 2 3	cator or confirm to Color 2.5Y 10YR 2.5Y	the absence of i Matrix (Moist) 2/1 4/2 5/1	mdicators.) (Type:	C=Concentratio	Record (Moist)	: somewhat posted Sand Good Features %	Type	Location 	(e.g. clay, sand, loam) silt loam loam sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24	Bottom Depth 11 24 30	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indices  Horizon  1 2 3	cator or confirm to Color 2.5Y 10YR 2.5Y	Matrix (Moist) 2/1 4/2 5/1	mdicators.) (Type:  % 100 100 100	C=Concentratio	Series Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS  Red  Color (Moist)	: somewhat posted Sand Good Features %	Type	Location	(e.g. clay, sand, loam) silt loam loam sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24	Bottom Depth 11 24 30	Watseka loamy sar Aquic Hapludolls The depth needed to document the indices  Horizon  1  2  3	Color 2.5Y 10YR 2.5Y	Matrix (Moist) 2/1 4/2 5/1	% 100 100 100	C=Concentratio	Series Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS  Red  Color (Moist)	: somewhat posted Sand Good Features  %	Type	Location	(e.g. clay, sand, loam) silt loam loam sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24	e: pgroup): ption (Describe to the Bottom Depth 11 24 30	Watseka loamy sar Aquic Hapludolls The depth needed to document the indices  Horizon  1 2 3	cator or confirm to Color 2.5Y 10YR 2.5Y	the absence of i Matrix (Moist) 2/1 4/2 5/1	% 100 100 100	C=Concentratio	Series Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS  Red  Color (Moist)	S=Covered/Coated Sand Good Features %	Type	Location	(e.g. clay, sand, loam) silt loam loam sand
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Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24	e: ogroup): otion (Describe to the Depth 11 24 30	Watseka loamy sar Aquic Hapludolls The depth needed to document the indices  Horizon  1  2  3	Color 2.5Y 10YR 2.5Y	the absence of i  Matrix (Moist)  2/1  4/2  5/1	% 100 100 100	C=Concentration	Series Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS  Red  Color (Moist)	: somewhat posted sand of dox Features  %	Type  Type	Location	(e.g. clay, sand, loam) silt loam loam sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24	Bottom Depth 11 24 30 Soil Field In	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indices  Horizon  1 2 3	Color 2.5Y 10YR 2.5Y	the absence of i  Matrix (Moist)  2/1  4/2  5/1    cators ar	ndicators.) (Type:  % 100 100 e not pres	C=Concentration	Series Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	: somewhat posted Sand Good Features %	Type s for Problen	Location	(e.g. clay, sand, loam) silt loam loam sand
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Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24 NRCS Hydric	Bottom Depth 11 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi	Watseka loamy sar Aquic Hapludolls The depth needed to document the indice  Horizon  1 2 3  Idicators (check he dipedon stic	Color 2.5Y 10YR 2.5Y	the absence of i  Matrix (Moist)  2/1  4/2  5/1    cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand S6 - Stripp	C=Concentration  sent ☑ y Gleyed y Redox oed Matrix	Series Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS  Red  Color (Moist)	somewhat posted Sand Good Features %	Type  Type  s for Problem A16 - Coast S7 - Dark St F12 - Iron-M	Location  matic Soils <sup>1</sup> Prairie Redox urface langanese Masse	(e.g. clay, sand, loam) silt loam loam sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24 NRCS Hydric	Bottom Depth 11 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge	Watseka loamy sar Aquic Hapludolls The depth needed to document the indice.  Horizon  1 2 3	Color 2.5Y 10YR 2.5Y	the absence of i  Matrix (Moist)  2/1  4/2  5/1    cators ar	modicators.) (Type:  % 100 100 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam	C=Concentration  y Gleyed y Redox ped Matrix by Muck M	Series Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	somewhat posted Sand Good Features %	Type  Type  s for Problen A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very	Location	(e.g. clay, sand, loam) silt loam loam sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24 NRCS Hydric	Bottom Depth 11 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified	Watseka loamy sar Aquic Hapludolls The depth needed to document the indice.  Horizon  1 2 3 dicators (check he oipedon stic en Sulfide d Layers	Color 2.5Y 10YR 2.5Y	the absence of i  Matrix (Moist)  2/1  4/2  5/1    cators ar	% 100 100 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam	c=Concentration  sent  y Gleyed y Redox ped Matrix by Muck M by Gleyed	Series Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS Red Color (Moist)	somewhat posted Sand Good Features %	Type  Type  s for Problen A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very	Location  matic Soils <sup>1</sup> Prairie Redox urface langanese Masse	(e.g. clay, sand, loam) silt loam loam sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24 NRCS Hydric	Bottom Depth 11 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M	Watseka loamy sar Aquic Hapludolls The depth needed to document the indice.  Horizon  1 2 3 dicators (check he oipedon stic en Sulfide d Layers	cator or confirm to Color 2.5Y 10YR 2.5Y re if indic	the absence of i  Matrix (Moist)  2/1  4/2  5/1    cators ar	modicators.) (Type:  % 100 100 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam	c=Concentration  sent  y Gleyed y Redox ped Matrix y Muck M ny Gleyed eted Matrix	Record Color (Moist)	somewhat posted Sand Good Features %	Type  Type  s for Problen A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very	Location	(e.g. clay, sand, loam) silt loam loam sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24 NRCS Hydric	Bottom Depth 11 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A11 - Deplete A12 - Thick D	Watseka loamy sar Aquic Hapludolls The depth needed to document the indice.  Horizon  1 2 3 Idicators (check he pripedon stic en Sulfide di Layers luck ed Below Dark Surface Dark Surface Dark Surface	cator or confirm to Color 2.5Y 10YR 2.5Y re if indic	the absence of i  Matrix (Moist)  2/1  4/2  5/1    cators ar	modicators.) (Type:  % 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	c=Concentration  y Gleyed y Redox ped Matrix by Muck M by Gleyed eted Matrix x Dark Su eted Dark	Recipion Depletion, RM=Reduced Matrix, CS Recipion (Moist)	somewhat posted Sand Good Features %	Type  Type  s for Problen A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very	Location	(e.g. clay, sand, loam) silt loam loam sand
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24 NRCS Hydric	Bottom Depth 11 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Watseka loamy sar Aquic Hapludolls The depth needed to document the indice.  Horizon  1 2 3	cator or confirm to Color 2.5Y 10YR 2.5Y re if indic	the absence of i  Matrix (Moist)  2/1  4/2  5/1    cators ar	modicators.) (Type:  % 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo	c=Concentration  y Gleyed y Redox ped Matrix by Muck M by Gleyed eted Matrix x Dark Su eted Dark	Recipion Depletion, RM=Reduced Matrix, CS Recipion (Moist)	secovered/Coated Sand Good Features %	Type  Type  s for Problen A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla	Location	(e.g. clay, sand, loam) silt loam loam sand es urface
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24 NRCS Hydric	Bottom Depth 11 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A1- Deplete A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu	Watseka loamy sar Aquic Hapludolls The depth needed to document the indict  Horizon  1 2 3 Idicators (check he dicators)  The control of the con	cator or confirm to Color 2.5Y 10YR 2.5Y re if indic	the absence of i  Matrix (Moist)  2/1  4/2  5/1    cators ar	mdicators.) (Type:  % 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	c=Concentration  y Gleyed y Redox ped Matrix by Muck M by Gleyed eted Matrix x Dark Su eted Dark	Recipion Depletion, RM=Reduced Matrix, CS Recipion (Moist)	secovered/Coated Sand Good Features %	Type  Type  Type  Figure 1  Type  Ty	Location	(e.g. clay, sand, loam) silt loam loam sand es urface
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24 NRCS Hydric	Bottom Depth 11 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Watseka loamy sar Aquic Hapludolls The depth needed to document the indict  Horizon  1 2 3 Idicators (check he dicators)  The control of the con	cator or confirm to Color 2.5Y 10YR 2.5Y re if indic	the absence of i  Matrix (Moist)  2/1  4/2  5/1    cators ar	modicators.) (Type:  % 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	c=Concentration  y Gleyed y Redox ped Matrix by Muck M by Gleyed eted Matrix x Dark Su eted Dark	Recipion Depletion, RM=Reduced Matrix, CS Recipion (Moist)	secovered/Coated Sand Good Features %	Type  Type  Type  Figure 1  Type  Ty	Location	(e.g. clay, sand, loam) silt loam loam sand es urface
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24 NRCS Hydric	Bottom Depth 11 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu Type:	Watseka loamy sar Aquic Hapludolls The depth needed to document the indict  Horizon  1 2 3 Idicators (check he dicators)  The control of the con	Color 2.5Y 10YR 2.5Y re if indic	the absence of i  Matrix (Moist)  2/1  4/2  5/1    cators ar	mdicators.) (Type:  % 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	c=Concentration  y Gleyed y Redox ped Matrix by Muck M by Gleyed eted Matrix x Dark Su eted Dark	Recipion Depletion, RM=Reduced Matrix, CS Recipion (Moist)	secovered/Coated Sand Good Features %	Type  Type  Type  Figure 1  Type  Ty	Location	(e.g. clay, sand, loam) silt loam loam sand es urface
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24 NRCS Hydric	Bottom Depth 11 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu Type:	Watseka loamy sar Aquic Hapludolls The depth needed to document the indice.  Horizon  1 2 3 Idicators (check here) Dipedon stic en Sulfide di Layers luck ed Below Dark Surface luck Mineral lucky Peat or Peat  N/A	Color 2.5Y 10YR 2.5Y re if indic	the absence of i  Matrix (Moist)  2/1  4/2  5/1    cators ar	mdicators.) (Type:  % 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	c=Concentration  y Gleyed y Redox ped Matrix by Muck M by Gleyed eted Matrix x Dark Su eted Dark	Recipion Depletion, RM=Reduced Matrix, CS Recipion (Moist)	secovered/Coated Sand Good Features %	Type  Type  Type  Figure 1  Type  Ty	Location	(e.g. clay, sand, loam) silt loam loam sand es urface
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 11 24 NRCS Hydric	Bottom Depth 11 24 30 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu Type:	Watseka loamy sar Aquic Hapludolls The depth needed to document the indice.  Horizon  1 2 3 Idicators (check here) Dipedon stic en Sulfide di Layers luck ed Below Dark Surface luck Mineral lucky Peat or Peat  N/A	Color 2.5Y 10YR 2.5Y re if indic	the absence of i  Matrix (Moist)  2/1  4/2  5/1    cators ar	mdicators.) (Type:  % 100 100 100 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	c=Concentration  y Gleyed y Redox ped Matrix by Muck M by Gleyed eted Matrix x Dark Su eted Dark	Recipion Depletion, RM=Reduced Matrix, CS Recipion (Moist)	secovered/Coated Sand Good Features %	Type  Type  Type  Figure 1  Type  Ty	Location	(e.g. clay, sand, loam) silt loam loam sand es urface



	Project/Site:	Clark Property				Wetland ID: Sample Point <b>P-4</b>
Total Cover   0						
Secrimon   Secrimon	VEGETATION	(Species identified in all uppercase are non-na	tive speci	es.)		
Number of Dominant Species Part are OBL, FACW, or FAC_ 1 (A)   A	Tree Stratum (Plo					
Number of Dominant Species that are OBL_FACW_or FAC1(A)		Species Name	% Cover	<u>Dominant</u>	Ind.Status	Dominance Test Worksheet
1	1.	an an	one see	300 00V	X00 000	, and the state of
Total Number of Dominant Species Across All Strats: 2 (B)	2.	M M	100 cos	60X 100E	ees 1000	Number of Dominant Species that are OBL, FACW, or FAC:1(A)
Percent of Dominant's Species That Are OBL, FACW, or FAC: _50.0% (A/B)	3.		000 000	300 00V	X00 000	
Percent of Dominant Species That Are OBL, FACW, or PACE   50.0%   (A/B)	4.	00 to	100 000	000 000		Total Number of Dominant Species Across All Strata: 2 (B)
Total Cover	5.		and see	300 00s	300 GGs	
Prevalence Index Worksheet	6.	M 35	100 000	000 000	60X 1000	Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)
B	7.		000 000	100 000	xx ca	
10	8.		ma			Prevalence Index Worksheet
Total Cover			our see	20 CO		Total % Cover of: Multiply by:
Sapingrighthub Stratum (Flot size: 15 ft radius)			200 000	00x 100x	eax 100	
Sapingrighthub Stratum (Flot size: 15 ft radius)		Total Cover =	0			FACW spp 40 x 2 = 80
Sapling/Shrub Stratum (Plot size: 15 ft radius)			•			FAC spp  0
1.	Sanling/Shrub Str	atum (Plot size: 15 ft radius)	,			FACILISPN 20
Company   Comp	1.					
Total	2					Of E opp
4,						Total 65 (A) 165 (B)
S						Total(A)(B)
Figure   F						Drovolonce Index = P/A = 2.529
Total Cover   Company						Prevalence muex – D/A – 2.030
Remarks    Remarks					-	
9,				wa sw		
10.		NOT THE TAXABLE PROPERTY.	100 VIN	***	AN 100	
Total Cover		<b></b>	nor non	900 900	WA 300	
Herb Stratum (Plot size: 5 ft radius)	10.			no no		
Herb Stratum (Plot size: 5 ft radius)		Total Cover =	0			
1.   ECHINOCHLOA CRUS-GALLI   40						
Company   Comp	Herb Stratum (Plo					☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *
A	1.					* Indicators of hydric soil and wetland hydrology must be
3.						,
5.	3.	Eleocharis erythropoda	5	N	OBL	<b>P</b> 1.22, 2
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.	4.	00 0X	000 see	XX 500	AN 180	Definitions of Vegetation Strata:
Total Cover =   1	5.	on 200	200 200	600 SSN	WA 100	
Total Cover =   1	6		W W			Tree - Woody plants 3 in. (7.6cm) or more in diameter at
9.	7.	***	200 100	000,000	600 MM	breast height (DBH), regardless of height.
9.	8.		000 000	200 000		
10.		***				Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
11.		504 SM	900 900		AN 100	ft. tall.
12.			MADE NAME	NAME OF THE PARTY	60A 90A	
13						
14.						
Total Cover   65   Woody Vines - All woody vines greater than 3.28 ft. in height.						
Total Cover = 65						Woody Vines - All woody vines greater than 3.28 ft. in height.
Woody Vine Stratum (Plot size: 30 ft radius)	10.			900 bu-		Troody Villes - America -
1		Total Cover –	OO			
1	1 A Line of Change	(2) ( ) ( ) ( ) ( ) ( ) ( )				
2	Woody Vine Strat	um (Plot size: 30 ft radius)				
3	1.		900 900	NO 100		
4 5 Total Cover = 0  Remarks: Sample point located in subtle depression within active agricultural field planted to soybeans in 2014; crop had been harvested at time of field investigation, but weedy species present		M.M.	,000 NOS			
5 Total Cover = 0  Remarks: Sample point located in subtle depression within active agricultural field planted to soybeans in 2014; crop had been harvested at time of field investigation, but weedy species present			004 300	200 500	AN 184	Hydrophytic Vegetation Present 🗹 Yes 📋 No
Total Cover = 0  Remarks: Sample point located in subtle depression within active agricultural field planted to soybeans in 2014; crop had been harvested at time of field investigation, but weedy species present		<b>99.99</b>	NO 100	w. w.		
Remarks: Sample point located in subtle depression within active agricultural field planted to soybeans in 2014; crop had been harvested at time of field investigation, but weedy species present	5.		WA 300			
	-					
	Remarks:	· · ·	-			

### **Additional Remarks:**

Sample point located in active agricultural field, harvested at the time of field investigations. Sample point within area subject to flooding during wet years. However, evidence of wetland hydrology, hydric soil indicators were not observed, and hydrophytic vegetation criteria marginally met.



Project/Site:	Clark Prope	erty					Stantec Project #:	193703359		Date:	11/07/14
Applicant:	Dale Clark	•					·			County:	Sauk
Investigator #1:	: J. Kraemer			Investi	igator #2:	600 60X 500				State:	Wisconsin
Soil Unit:	Watseka lo	amy sand				NV	VI/WWI Classification:	300 600 000		Wetland ID:	W-1
Landform:	Depression	•		Loc	al Relief:	Concav	e			Sample Point:	P-5
Slope (%):	0-2	Latitude:	N/A	L	ongitude:	N/A		Datum:	N/A		Farmed Wetland
<u> </u>	drologic conc	litions on the site typ	oical for				in in remarks)	□ Yes ☑	No	Section:	2
		or Hydrology □ sig					Are normal circumsta			Township:	8N
		or Hydrology					☑ Yes	□No		Range:	3 Dir: E
SUMMARY OF		or riyarology riac	arany pr		· .					rtange.	J
Hydrophytic Ve		sent?		☑ Yes	□ No			Hydric Soils	Present?		
				☑ Yes						Mithin A Wetla	
Wetland Hydro			nditions			normal	Sample point legated			***************************************	aller (Z. 1942 (D. 176)
Remarks:	Daseu on a	WEIS allalysis, Co	nullions	were we	iller triair	HOIIIIai.	Sample point located	iii active agric	Juiturai ileic	1.	
HYDROLOGY											
Wetland Hydr	ology Indica	itors (Check here if	indicato	rs are no	t present	□):					
<u>Primary</u>	<u>:</u>	•			•	ŕ			Secondary:		
	A1 - Surface				B9 - Wate					B6 - Surface Sc	
	A2 - High Wa				B13 - Aqu					B10 - Drainage	
l p:	A3 - Saturation B1 - Water M				B14 - True				님	C2 - Dry-Seaso C8 - Crayfish B	
	B2 - Sedimer				•	•	spheres on Living Roots			_	Visible on Aerial Imagery
	B3 - Drift Dep	•					educed Iron				Stressed Plants
	B4 - Algal Ma				C6 - Rece	nt Iron Re	duction in Tilled Soils		v	D2 - Geomorph	ic Position
	B5 - Iron Dep				C7 - Thin				回	D5 - FAC-Neutr	al Test
		on Visible on Aerial Ima	~ ,		D9 - Gaug	•					
L	B8 - Sparsely	Vegetated Concave S	ипасе		Other (Exp	piain in Re	emarks)				
Field Observa											
Surface Water		☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes □ No
Water Table Pr		☐ Yes ☑ No	Depth:		(in.)						
Saturation Pres	sent?	☐ Yes ☑ No	Depth:		(in.)						
Describe Record	ded Data (stre	eam gauge, monitorin	ng well a	erial phot	os previo	us inspec	tions) if available:		FSA Slides		
		Jan garage, memerin	.9,	o, ioi, p. ioi	, p						
Remarks:	Sample poi	nt within area subje	ct to floo	dina dur	ing wet ve			N/			
Remarks:	Sample poi	nt within area subje	ct to floo	ding dur	ing wet ye		ed on FSA slide review	V.			
	Sample poi	nt within area subje	ct to floo	ding dur	ing wet ye			V.			
SOILS	·	·		ding dur	ing wet ye	ears base	ed on FSA slide review				
SOILS Map Unit Name	); ;	Watseka loamy sar		ding dur	ing wet ye	ears base					
SOILS Map Unit Name Taxonomy (Sub	e: ogroup):	Watseka loamy sar Aquic Hapludolls	nd			ears base	ed on FSA slide review Series Drainage Class:	somewhat po	oorly		
SOILS Map Unit Name Taxonomy (Sub	e): Ogroup): Otion (Describe to the	Watseka loamy sar Aquic Hapludolls	nd	the absence of in		ears base	ed on FSA slide review Series Drainage Class:	somewhat po	oorly	Pore Lining, M=Matrix)	
SOILS Map Unit Name Taxonomy (Sub Profile Descrip	e: ogroup): otion (Describe to the Bottom	Watseka loamy sar Aquic Hapludolls	ator or confirm	the absence of in	ndicators.) (Type:	ears base	ed on FSA slide review Series Drainage Class: on, D=Depletion, RM=Reduced Matrix, CS=	somewhat po =Covered/Coated Sand G dox Features	OOTIY  Grains; Location: PL=	<b>Y</b>	Texture
SOILS Map Unit Name Taxonomy (Sub	e): Ogroup): Otion (Describe to the	Watseka loamy sar Aquic Hapludolls	cator or confirm	the absence of in Matrix (Moist)	ndicators.) (Type:	ears base	ed on FSA slide review Series Drainage Class:	somewhat po	oorly	Pore Lining, M=Matrix) <b>Location</b>	Texture (e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip	e: ogroup): otion (Describe to the Bottom	Watseka loamy sar Aquic Hapludolls	ator or confirm	the absence of in	ndicators.) (Type:	ears base	ed on FSA slide review Series Drainage Class: on, D=Depletion, RM=Reduced Matrix, CS=	somewhat po =Covered/Coated Sand G dox Features	OOTIY  Grains; Location: PL=	<b>Y</b>	I
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	e: ogroup): otion (Describe to the Bottom Depth	Watseka loamy sar Aquic Hapludolls	cator or confirm	the absence of in Matrix (Moist)	ndicators.) (Type:	ears base	ed on FSA slide review Series Drainage Class: on, D=Depletion, RM=Reduced Matrix, CS=	somewhat posterior somewhat post	oorly  Prains; Location: PL=	<b>Y</b>	(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	e: ogroup): otion (Describe to the Bottom Depth	Watseka loamy sar Aquic Hapludolls	cator or confirm to Color 2.5Y	the absence of ir Matrix (Moist) 2/1	ndicators.) (Type:	C=Concentratio	Series Drainage Class:  on, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)	somewhat posted Sand Good Features	Oorly  Frains; Location: PL=  Type	Location 	(e.g. clay, sand, loam) silt loam sandy clay loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10	e: ogroup): otion (Describe to the Bottom Depth 10 16	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indice  Horizon  1 2	cator or confirm Color 2.5Y 10YR	Matrix (Moist) 2/1 4/1	% 100 95	C=Concentratio	Series Drainage Class:  On, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/6	somewhat posterior somewhat post	Oorly  Grains; Location: PL=  Type   C	Location 	(e.g. clay, sand, loam) silt loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10 16	Bottom Depth 10 16 28	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indice  Horizon  1  2  3	Color 2.5Y 10YR 2.5Y	Matrix (Moist) 2/1 4/1 5/2	% 100 95 100	C=Concentratio	Series Drainage Class:  on, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/6	somewhat posterior somewhat post	Oorly  Prains; Location: PL=  Type  C	Location  M	(e.g. clay, sand, loam) silt loam sandy clay loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10 16	Bottom Depth 10 28	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indices  Horizon  1  2  3	Color 2.5Y 10YR 2.5Y	Matrix (Moist) 2/1 4/1 5/2	% 100 95 100	C=Concentration  2.5Y	Series Drainage Class:  On, D=Depletion, RM=Reduced Matrix, CS:  Red  Color (Moist)   4/6	somewhat posterior somewhat post	Oorly  Grains; Location: PL=  Type  C   C	Location M	(e.g. clay, sand, loam) silt loam sandy clay loam loamy sand
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10 16	Bottom Depth 10 16 28	Watseka loamy sar Aquic Hapludolls The depth needed to document the indices  Horizon  1  2  3	Color 2.5Y 10YR 2.5Y	Matrix (Moist) 2/1 4/1 5/2	% 100 95 100	C=Concentratio	Series Drainage Class:  On, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/6	somewhat posterior somewhat post	Oorly  Grains; Location: PL=  Type  C   C	Location M	(e.g. clay, sand, loam) silt loam sandy clay loam loamy sand
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10 16	e: pgroup): ption (Describe to the second point of the second poin	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indices  Horizon  1 2 3	Color 2.5Y 10YR 2.5Y	Matrix (Moist) 2/1 4/1 5/2	% 100 95 100	C=Concentration  2.5Y	Series Drainage Class:  On, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/6	somewhat posterior somewhat post	Type C	Location  M	(e.g. clay, sand, loam) silt loam sandy clay loam loamy sand
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10 16	Bottom Depth 10 28	Watseka loamy sar Aquic Hapludolls The depth needed to document the indices  Horizon  1  2  3	Color 2.5Y 10YR 2.5Y	Matrix (Moist) 2/1 4/1 5/2	% 100 95 100	C=Concentratio	Series Drainage Class:  On, D=Depletion, RM=Reduced Matrix, CS: Red Color (Moist)  4/6	somewhat posterior somewhat post	Oorly  Grains; Location: PL=  Type  C	Location  M	(e.g. clay, sand, loam) silt loam sandy clay loam loamy sand
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10 16	Bottom Depth 10 28 Soil Field In	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indices  Horizon  1 2 3	Color 2.5Y 10YR 2.5Y	the absence of in Matrix (Moist) 2/1 4/1 5/2 cators are	% 100 95 100 e not pres	c=Concentration  2.5Y    sent	Series Drainage Class:  On, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/6	somewhat posterior somewhat post	Type  C  C    s for Problen	Location   M	(e.g. clay, sand, loam) silt loam sandy clay loam loamy sand
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10 16	Bottom Depth 10 16 28 Soil Field In A1- Histosol	Watseka loamy sar Aquic Hapludolls The depth needed to document the indices  Horizon  1  2  3    dicators (check height	Color 2.5Y 10YR 2.5Y	the absence of in Matrix (Moist) 2/1 4/1 5/2 cators are	% 100 95 100 e not pres	C=Concentration  2.5Y   2.5Y    y Gleyed	Series Drainage Class:  On, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/6	somewhat posterior sand Grand	Type  Type  C  C     s for Problen  A16 - Coast	Location  M matic Soils <sup>1</sup> Prairie Redox	(e.g. clay, sand, loam) silt loam sandy clay loam loamy sand
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SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10 16 NRCS Hydric	Bottom Depth 10 16 28 Soil Field In A1- Histosol A2 - Histic Ep	Watseka loamy sar Aquic Hapludolls The depth needed to document the indices  Horizon  1 2 3 dicators (check here  Dipedon stic In Sulfide	Color 2.5Y 10YR 2.5Y	Matrix (Moist)  2/1  4/1  5/2   cators are	% 100 95 100 e not pres	c=Concentration  2.5Y   2.5Y    y Gleyed by Redox oed Matrix by Muck Mat	Series Drainage Class:  On, D=Depletion, RM=Reduced Matrix, CS: Red Color (Moist)  4/6  Natrix  ineral	somewhat posterior somewhat post	Type  Type  C  C   For Problem  A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very	Location  M	(e.g. clay, sand, loam) silt loam sandy clay loam loamy sand es
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10 16 NRCS Hydric	Bottom Depth 10 16 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge	Watseka loamy sar Aquic Hapludolls The depth needed to document the indice  Horizon  1 2 3  dicators (check here  Dipedon stic In Sulfide I Layers	Color 2.5Y 10YR 2.5Y	Matrix (Moist)  2/1  4/1  5/2   cators are	% 100 95 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam	c=Concentration  2.5Y sent  y Gleyed y Redox oed Matrix by Muck May Gleyed	Series Drainage Class:  On, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/6 ): Matrix dineral Matrix	somewhat posterior somewhat post	Type  Type  C  C   For Problem  A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very	Location  M	(e.g. clay, sand, loam) silt loam sandy clay loam loamy sand es
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10 16 NRCS Hydric	Bottom Depth 10 16 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete	Watseka loamy sar Aquic Hapludolls The depth needed to document the indices  Horizon  1 2 3  dicators (check here) Dipedon stic In Sulfide the Layers Luck and Below Dark Surface	Color 2.5Y 10YR 2.5Y re if indic	the absence of in Matrix (Moist)  2/1  4/1  5/2    cators are	% 100 95 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo	c=Concentration  2.5Y   2.5Y    y Gleyed by Redox oed Matrix by Muck May Gleyed eted Matrix by Cleyed eted Matrix by Cleyed eted Matrix by Dark Su	ed on FSA slide review Series Drainage Class:  On, D=Depletion, RM=Reduced Matrix, CS: Red Color (Moist)  4/6   Natrix Sineral Matrix Karface	somewhat posterior somewhat post	Type  Type  C  C   For Problem  A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very	Location  M	(e.g. clay, sand, loam) silt loam sandy clay loam loamy sand es
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SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10 16 NRCS Hydric	Bottom Depth 10 16 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Watseka loamy sar Aquic Hapludolls The depth needed to document the indices  Horizon  1 2 3 dicators (check here Dipedon Stic In Sulfide I Layers Luck Ed Below Dark Surface Dark Surface Luck Mineral	Color 2.5Y 10YR 2.5Y re if indic	the absence of in Matrix (Moist)  2/1  4/1  5/2    cators are	% 100 95 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo	c=Concentration  2.5Y 2.5Y y Gleyed by Redox oed Matrix by Muck Matrix by Muck Matrix by Gleyed beted Matrix by Concentration by Concentratio	ed on FSA slide review  Series Drainage Class:  Red  Color (Moist)   4/6      Natrix  Inneral Matrix  Inface Surface Surface  Surface  Surface  Surface	somewhat posterior somewhat post	Type  Type  C  C   For Problem  A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla	Location  M	(e.g. clay, sand, loam) silt loam sandy clay loam loamy sand es urface
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip  Top Depth  0 10 16 NRCS Hydric	Bottom Depth 10 16 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M	Watseka loamy sar Aquic Hapludolls  Horizon  1 2 3 dicators (check her  Dipedon stic in Sulfide d Layers luck ed Below Dark Surface Dark Surface	Color 2.5Y 10YR 2.5Y re if indic	the absence of ir  Matrix (Moist)  2/1  4/1  5/2    cators are	% 100 95 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	c=Concentration  2.5Y 2.5Y y Gleyed by Redox oed Matrix by Muck Matrix by Muck Matrix by Gleyed beted Matrix by Concentration by Concentratio	ed on FSA slide review  Series Drainage Class:  Red  Color (Moist)   4/6      Natrix  Inneral Matrix  Inface Surface Surface  Surface  Surface  Surface	somewhat posterior somewhat post	Type  Type  C  C   For Problem  A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla	Location  M	(e.g. clay, sand, loam) silt loam sandy clay loam loamy sand es
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SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 10 16 NRCS Hydric  NRCS Hydric	Bottom Depth 10 16 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A1- Deplete A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm Mu	Watseka loamy sar Aquic Hapludolls The depth needed to document the indices  Horizon  1 2 3  dicators (check here) Dipedon stic In Sulfide di Layers Luck In Sulfide di Layers Luck In Sulface Dark Surface	Color 2.5Y 10YR 2.5Y re if indic	the absence of in Matrix (Moist)  2/1  4/1  5/2    cators are	% 100 95 100 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	c=Concentration  2.5Y 2.5Y y Gleyed by Redox oed Matrix by Muck Matrix by Muck Matrix by Gleyed beted Matrix by Concentration by Concentratio	ed on FSA slide review  Series Drainage Class:  Red  Color (Moist)   4/6      Natrix  Inneral Matrix  Inface Surface Surface  Surface  Surface  Surface	somewhat postsored sand of dox Features %	Type  Type  C  C    For Problem  A16 - Coast S7 - Dark Si F12 - Iron-M TF12 - Very Other (Expla	Location  M	es present, unless disturbed or problematic.
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Project/Site: Clark Property Wetland ID: W-1 Sample Point P-5 VEGETATION (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 1. 2. Number of Dominant Species that are OBL, FACW, or FAC: 1 (A) 3. 4. Total Number of Dominant Species Across All Strata: 1 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B) 7. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: OBL spp. 5 10. x 1 =FACW spp. 80 Total Cover = x 2 =0 160 FAC spp. 0 x 3 =FACU spp. 0 UPL spp. 0 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 =1. x 5 =2. 3. Total 85 (A) 165 4. 5. Prevalence Index = B/A = 1.941 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. Yes ☐ No Rapid Test for Hydrophytic Vegetation 10. Dominance Test is > 50% Yes ☐ No 0 Total Cover = ☐ No Prevalence Index is ≤ 3.0 \* Yes ☐ Yes ☑ No Morphological Adaptations (Explain) \* ☑ No Herb Stratum (Plot size: 5 ft radius) ☐ Yes Problem Hydrophytic Vegetation (Explain) \* ECHINOCHLOA CRUS-GALLI 80 **FACW** 1. \* Indicators of hydric soil and wetland hydrology must be 2. 5 **OBL** Eleocharis erythropoda Ν present, unless disturbed or problematic. 3. **Definitions of Vegetation Strata:** 4. 5. 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3.28 ft. tall. 13. 14. **Woody Vines** - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 85 Woody Vine Stratum (Plot size: 30 ft radius) 1. 2. **Hydrophytic Vegetation Present** ☑ Yes ☐ No 3. 4. 5. Total Cover = 0 Sample point located in depression within active agricultural field planted to soybeans in 2014; crop had been harvested at time of field investigation, Remarks: but weedy species present were identifiable.

### **Additional Remarks:**

Sample point located in active agricultural field, harvested at the time of field investigations, but weedy hydrophytic species were present and identifiable. Sample point within area subject to flooding during wet years.



Project/Site:	Clark Prope	ertv					Stantec Project #:	193703359		Date:	11/07/14
Applicant:	Dale Clark	,					,			County:	Sauk
Investigator #1:				Investi	gator #2:					State:	Wisconsin
Soil Unit:	Watseka lo			1111000	gator #2.		/I/WWI Classification:	xx cos cos		Wetland ID:	W-1
Landform:	Talf	anny sana		1.00	al Relief:		1/ VV VVI Olassindation.				
		Latituda	NI/A					Dotum	NI/A	Sample Point:	
Slope (%):	0-2	Latitude:			ongitude:			Datum:		Community ID:	**
		litions on the site typ				(If no, explai		☐ Yes ☑		Section:	2
1		or Hydrology 🗆 sig	-				Are normal circumsta	•	t?	Township:	8N
Are Vegetation	□ , Soil □,	or Hydrology 🛚 nat	turally pro	oblemation	c?		☑ Yes	□No		Range:	3 Dir: E
<b>SUMMARY OF</b>	FINDINGS										
Hydrophytic Ve	getation Pres	sent?		☐ Yes	☑ No			Hydric Soils	Present?		☐ Yes ☑ No
Wetland Hydrol				□ Yes						Within A Wetla	
Remarks:	······	······································	nditions			normal	Sample point located			••••••	
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HYDROLOGY											
Wetland Hydr	ology Indica	itors (Check here if	indicato	rs are no	t present	☑):					
Primary	40° 10°	(				,			Secondary:		
	A1 - Surface	Water			B9 - Wate	r-Stained l	_eaves			B6 - Surface Sc	oil Cracks
	A2 - High Wa	iter Table			B13 - Aqu	atic Fauna				B10 - Drainage	Patterns
	A3 - Saturation				B14 - True					C2 - Dry-Seaso	
	B1 - Water M				C1 - Hydro	•				C8 - Crayfish B	
	B2 - Sedimer	•					spheres on Living Roots				Visible on Aerial Imagery
	B3 - Drift Dep				C4 - Prese						Stressed Plants
<u></u>	B4 - Algal Ma			*******			duction in Tilled Soils			D2 - Geomorph	
l	B5 - Iron Dep	osits on Visible on Aerial Ima	2007		C7 - Thin D9 - Gaug				لسا	D5 - FAC-Neutr	ai rest
		Vegetated Concave S	~ ,		Other (Exp	•					
Ll	Do - Oparsory	vegetated concave o	ariacc	L1	Outor (EX		markoj				
E' - I - I O I	1.0					1					
Field Observat											
Surface Water	Present?	☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes ☑ No
Water Table Pr	esent?	☐ Yes ☑ No	Depth:		(in.)			Wedana Hy	arology i i	Coont.	100 🗆 110
Saturation Pres	ent?	☐ Yes ☑ No	Depth:		(in.)						
Docaribo Bosoro	lad Data (atro	eam gauge, monitorir	a well o	orial phot	oc provio	us inches	tions) if available:		FSA Slides		
				eriai priot	US, PIEVIO	us mspec	lions), ii avallable.		I OA Olldes		
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Remarks:	Sample poi	nt within area subje	ct to floo	ding duri	ing wet ye	ears base	d on FSA slide review	V.			
Remarks:	Sample poi	nt within area subje	ct to floo	ding duri	ing wet ye	ears base	ed on FSA slide review	V.			
	Sample poi	nt within area subje	ct to floo	ding duri	ing wet ye	ears base	ed on FSA slide review	V.			
SOILS		·		ding duri	ing wet ye				oorly		
SOILS Map Unit Name	; ;	Watseka loamy sar		ding duri	ing wet ye		ed on FSA slide review eries Drainage Class:		oorly		
SOILS  Map Unit Name Taxonomy (Sub	e: ogroup):	Watseka loamy sar Aquic Hapludolls	nd			S	eries Drainage Class:	somewhat po		Pore Lining M=Matrix)	
SOILS Map Unit Name Taxonomy (Sub	e: ogroup): otion (Describe to th	Watseka loamy sar Aquic Hapludolls	nd	he absence of ir		S	eries Drainage Class:	somewhat po		Pore Lining, M=Matrix)	Teyture
SOILS Map Unit Name Taxonomy (Sub Profile Descrip	e: ogroup): otion (Describe to the	Watseka loamy sar Aquic Hapludolls	ator or confirm t	he absence of in	ndicators.) (Type:	S C=Concentration	eries Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS=	somewhat po =Covered/Coated Sand G dox Features	Grains; Location: PL=	<b>T</b>	Texture
SOILS Map Unit Name Taxonomy (Sub	e: ogroup): otion (Describe to the Bottom Depth	Watseka loamy sar Aquic Hapludolls	cator or confirm t	he absence of in Matrix (Moist)	ndicators.) (Type:	S C=Concentration	eries Drainage Class:	somewhat po		Pore Lining, M=Matrix)  Location	(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	e: ogroup): otion (Describe to the Bottom Depth	Watseka loamy sar Aquic Hapludolls	cator or confirm to Color 10YR	he absence of in Matrix (Moist) 2/1	ndicators.) (Type:	S C=Concentration	eries Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)	somewhat po =Covered/Coated Sand G dox Features	Type	Location 	(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip	e: ogroup): otion (Describe to the Bottom Depth	Watseka loamy sar Aquic Hapludolls	cator or confirm t	he absence of in Matrix (Moist)	ndicators.) (Type:	C=Concentration	eries Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS=	somewhat posterior somewhat post	Grains; Location: PL=	<b>T</b>	(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	e: ogroup): otion (Describe to the Bottom Depth	Watseka loamy sar Aquic Hapludolls	cator or confirm to Color 10YR	he absence of in Matrix (Moist) 2/1	ndicators.) (Type:	S C=Concentration	eries Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)	somewhat posterior somewhat post	Type	Location 	(e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16	e: ogroup): otion (Describe to the Bottom Depth 16 18	Watseka loamy sar Aquic Hapludolls  de depth needed to document the indice  Horizon  1 2	cator or confirm to Color 10YR 10YR 10YR	he absence of in Matrix (Moist) 2/1 2/1	% 100 99	C=Concentration	eries Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4	somewhat posterior somewhat post	Type C	Location 	(e.g. clay, sand, loam) loam silt loam silty clay loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24	e: Digroup): Discribe to the Bottom Depth 16 18 24 28	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indices  Horizon  1 2 3 4	cator or confirm to Color 10YR 10YR	he absence of in Matrix (Moist) 2/1 2/1 4/1	% 100 99 100	C=Concentration 10YR	eries Drainage Class:  Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4	somewhat posterior somewhat post	Type C C C	Location  M 	(e.g. clay, sand, loam) loam silt loam
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24	e: Digroup): Discribe to the Bottom Depth 16 18 24 28	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indices  Horizon  1  2  3  4	Color 10YR 10YR 10YR 10YR	he absence of in Matrix (Moist) 2/1 2/1 4/1 4/1	% 100 99 100 99	C=Concentration  10YR  10YR  10YR	eries Drainage Class:  Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4  4/4	somewhat posterior somewhat post	Type  C C C C	Location M M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24	e: Digroup): Discribe to the Bottom Depth 16 18 24 28	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indices  Horizon  1 2 3 4	cator or confirm to Color 10YR 10YR 10YR 10YR 10YR	he absence of in Matrix (Moist) 2/1 2/1 4/1 4/1	% 100 99 100 99	C=Concentration  10YR  10YR	eries Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4	somewhat posterior somewhat post	Type C C C	Location  M 	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24	e: Digroup): Discribe to the Bottom Depth 16 18 24 28	Watseka loamy sar Aquic Hapludolls  The depth needed to document the indices  Horizon  1  2  3  4	Color 10YR 10YR 10YR 10YR	he absence of in Matrix (Moist) 2/1 2/1 4/1 4/1	% 100 99 100 99	C=Concentration  10YR  10YR  10YR	eries Drainage Class:  Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4  4/4	somewhat posterior somewhat post	Type  C C C C	Location M M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24	e: Digroup): Dition (Describe to the Bottom Depth 16 18 24 28	Watseka loamy sar Aquic Hapludolls be depth needed to document the indice Horizon 1 2 3 4	Color 10YR 10YR 10YR 10YR	he absence of in Matrix (Moist) 2/1 2/1 4/1 4/1	% 100 99 100 99	C=Concentration  10YR  10YR	eries Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4	somewhat posterior somewhat post	Type  C  C  C	Location M M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24	e: Digroup): Discribe to the Bottom Depth 16 18 24 28	Watseka loamy sar Aquic Hapludolls be depth needed to document the indice Horizon 1 2 3 4	Color 10YR 10YR 10YR	he absence of in Matrix (Moist) 2/1 2/1 4/1 4/1	% 100 99 100 99	C=Concentration  10YR  10YR   10YR	eries Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4	somewhat posterior somewhat post	Type  C C C C	Location   M   M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24	e: Digroup): Discribe to the Bottom Depth 16 18 24 28	Watseka loamy sar Aquic Hapludolls  Horizon  1 2 3 4	Color 10YR 10YR 10YR	he absence of in Matrix (Moist) 2/1 2/1 4/1 4/1	% 100 99 100 99 e not pres	SC=Concentration  10YR  10YR   10YR   3ent ☑)	eries Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4	somewhat posterior somewhat post	Type C C C C for Problen	Location   M   M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24	e: ogroup): otion (Describe to the Bottom Depth 16 18 24 28 Soil Field In	Watseka loamy sar Aquic Hapludolls le depth needed to document the indice Horizon 1 2 3 4 dicators (check he	Color 10YR 10YR 10YR	he absence of in Matrix (Moist) 2/1 2/1 4/1 4/1 cators are	% 100 99 100 99	C=Concentration  10YR  10YR   10YR   y Gleyed N	eries Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4	somewhat posterior sand Grand	Type C C C C for Problen	Location   M   M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol	Watseka loamy sar Aquic Hapludolls  te depth needed to document the indice  Horizon  1 2 3 4  dicators (check he bipedon	Color 10YR 10YR 10YR	he absence of in  Matrix (Moist)  2/1  2/1  4/1  4/1    cators are	% 100 99 100 99 e not pres	C=Concentration  10YR  10YR  10YR  y Gleyed Ny Redox	eries Drainage Class:  Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4	somewhat posterior somewhat post	Type  C C C C C For Problem A16 - Coast S7 - Dark St	Location   M   M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge	Watseka loamy sar Aquic Hapludolls the depth needed to document the indices  Horizon  1  2  3  4   dicators (check he bipedon stic n Sulfide	Color 10YR 10YR 10YR	he absence of in  Matrix (Moist)  2/1  2/1  4/1  4/1    cators are	% 100 99 100 99 e not pres	SC=Concentration  10YR 10YR y Gleyed Ny Redox oed Matrix	eries Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4  4/4	somewhat posterior somewhat post	Type  C C C C for Problem A16 - Coast S7 - Dark St F12 - Iron-M	Location   M   M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified	Watseka loamy sar Aquic Hapludolls  Horizon  1 2 3 4 dicators (check he bipedon stic n Sulfide Hapludolls	Color 10YR 10YR 10YR	he absence of in  Matrix (Moist)  2/1  2/1  4/1  4/1    cators are	% 100 99 100 99 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam	C=Concentration  10YR  10YR  10YR  10YR  y Gleyed N y Redox bed Matrix by Muck Min	eries Drainage Class:  n, D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4	somewhat posterior somewhat post	Type  C C C S for Problen A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very	Location  M M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M	Watseka loamy sar Aquic Hapludolls  Horizon  1 2 3 4 dicators (check he bipedon stic n Sulfide d Layers luck	Color 10YR 10YR 10YR 10YR re if indic	he absence of in  Matrix (Moist)  2/1  2/1  4/1  4/1    cators are	% 100 99 100 99 e not pres S4 - Sand S5 - Sand S5 - Stripp F1 - Loam F2 - Loam F3 - Deple	C=Concentration  10YR  1	eries Drainage Class:  Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4  Matrix  neral Matrix	somewhat posterior somewhat post	Type  C C C S for Problen A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very	Location  M M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete	Watseka loamy sar Aquic Hapludolls  Horizon  1 2 3 4 dicators (check here)  bipedon stic  n Sulfide  d Layers luck  ed Below Dark Surface	Color 10YR 10YR 10YR 10YR re if indic	he absence of in  Matrix (Moist)  2/1  2/1  4/1  4/1    cators are	% 100 99 100 99 e not pres S4 - Sand S5 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo	C=Concentration  10YR  10YR  10YR   10YR  y Gleyed N y Redox bed Matrix by Muck Mi eted Matrix x Dark Sur	eries Drainage Class:  , D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4  Matrix  neral Matrix  face	somewhat posterior somewhat post	Type  C C C S for Problen A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very	Location  M M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A11 - Deplete A12 - Thick D	Watseka loamy sar Aquic Hapludolls  Horizon  1 2 3 4 dicators (check he bipedon stic n Sulfide d Layers luck ed Below Dark Surface Dark Surface	Color 10YR 10YR 10YR 10YR re if indic	he absence of in  Matrix (Moist)  2/1  2/1  4/1  4/1   cators are	% 100 99 100 99 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	C=Concentration  10YR 10YR 10YR y Gleyed N y Redox ped Matrix by Muck Mi ny Gleyed N eted Matrix x Dark Sur eted Dark S	eries Drainage Class:  N. D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4	somewhat posterior somewhat post	Type  C C C S for Problen A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very	Location  M M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A1- Deplete A12 - Thick E S1 - Sandy M	Watseka loamy sar Aquic Hapludolls  de depth needed to document the indice  Horizon  1 2 3 4 dicators (check here) bipedon stic n Sulfide d Layers luck ded Below Dark Surface luck Mineral	Color 10YR 10YR 10YR 10YR re if indic	he absence of in  Matrix (Moist)  2/1  2/1  4/1  4/1    cators are	% 100 99 100 99 e not pres S4 - Sand S5 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo	C=Concentration  10YR 10YR 10YR y Gleyed N y Redox ped Matrix by Muck Mi ny Gleyed N eted Matrix x Dark Sur eted Dark S	eries Drainage Class:  N. D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4	somewhat posterior somewhat post	Type  C C S for Problen A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla	Location  M M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay es urface
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A1- Deplete A12 - Thick E S1 - Sandy M	Watseka loamy sar Aquic Hapludolls  Horizon  1 2 3 4 dicators (check he bipedon stic n Sulfide d Layers luck ed Below Dark Surface Dark Surface	Color 10YR 10YR 10YR 10YR re if indic	he absence of in  Matrix (Moist)  2/1  2/1  4/1  4/1   cators are	% 100 99 100 99 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	C=Concentration  10YR 10YR 10YR y Gleyed N y Redox ped Matrix by Muck Mi ny Gleyed N eted Matrix x Dark Sur eted Dark S	eries Drainage Class:  N. D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4	somewhat posterior somewhat post	Type  C C S for Problen A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla	Location  M M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A1- Deplete A12 - Thick E S1 - Sandy M	Watseka loamy sar Aquic Hapludolls  Horizon  1 2 3 4 dicators (check he bipedon stic n Sulfide d Layers luck ed Below Dark Surface Park Surface luck Mineral cky Peat or Peat	Color 10YR 10YR 10YR 10YR re if indic	he absence of in Matrix (Moist) 2/1 2/1 4/1 4/1	% 100 99 100 99 e not pres S4 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	C=Concentration  10YR 10YR 10YR y Gleyed N y Redox ped Matrix by Muck Mi ny Gleyed N eted Matrix x Dark Sur eted Dark S	eries Drainage Class:  N. D=Depletion, RM=Reduced Matrix, CS= Red Color (Moist)  4/4  4/4	somewhat postsored sand of dox Features %	Type  Type  C  C  C  C  For Problen  A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla	Location  M M M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay es urface
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu Type:	Watseka loamy sar Aquic Hapludolls  Horizon  1 2 3 4  dicators (check he bipedon stic n Sulfide I Layers luck ed Below Dark Surface lark Surface lark Surface luck Mineral cky Peat or Peat	Color 10YR 10YR 10YR 10YR re if indic	he absence of in  Matrix (Moist)  2/1  2/1  4/1  4/1    cators are	% 100 99 100 99 e not pres S4 - Sand S5 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	C=Concentration  10YR 10YR 10YR Sent ①) y Gleyed N y Redox bed Matrix by Muck Mi ny Gleyed N eted Matrix x Dark Sur eted Dark S x Depressi	eries Drainage Class:  N. D=Depletion, RM=Reduced Matrix, CS:  Red  Color (Moist)   4/4   4/4   Matrix  face Surface ons	somewhat postsored sand of dox Features  % 1 1 Indicators  Indicators  Hydric Soil	Type  C C C C C For Problem A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla	Location  M M M	e present, unless disturbed or problematic.
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu Type: Marginal hy	Watseka loamy sar Aquic Hapludolls  Horizon  1 2 3 4 dicators (check he bipedon stic n Sulfide d Layers luck ed Below Dark Surface lark Surface luck Mineral cky Peat or Peat N/A	Color 10YR 10YR 10YR 10YR re if indic	he absence of in  Matrix (Moist)  2/1  2/1  4/1  4/1    cators are	% 100 99 100 99 e not pres S4 - Sand S5 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	C=Concentration  10YR 10YR 10YR Sent ①) y Gleyed N y Redox bed Matrix by Muck Mi ny Gleyed N eted Matrix x Dark Sur eted Dark S x Depressi	eries Drainage Class:  N. D=Depletion, RM=Reduced Matrix, CS:  Red  Color (Moist)   4/4   4/4   Matrix  face Surface ons	somewhat postsored sand of dox Features  % 1 1 Indicators  Indicators  Hydric Soil	Type  C C C C C For Problem A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla	Location  M M M	(e.g. clay, sand, loam) loam silt loam silty clay loam silty clay es urface
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu Type: Marginal hy	Watseka loamy sar Aquic Hapludolls  Horizon  1 2 3 4  dicators (check he bipedon stic n Sulfide I Layers luck ed Below Dark Surface lark Surface lark Surface luck Mineral cky Peat or Peat	Color 10YR 10YR 10YR 10YR re if indic	he absence of in  Matrix (Moist)  2/1  2/1  4/1  4/1    cators are	% 100 99 100 99 e not pres S4 - Sand S5 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	C=Concentration  10YR 10YR 10YR Sent ①) y Gleyed N y Redox bed Matrix by Muck Mi ny Gleyed N eted Matrix x Dark Sur eted Dark S x Depressi	eries Drainage Class:  N. D=Depletion, RM=Reduced Matrix, CS:  Red  Color (Moist)   4/4   4/4   Matrix  face Surface ons	somewhat postsored sand of dox Features  % 1 1 Indicators  Indicators  Hydric Soil	Type  C C C C C For Problem A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla	Location  M M M	e present, unless disturbed or problematic.
SOILS  Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16 18 24 NRCS Hydric	Bottom Depth 16 18 24 28 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified A10 - 2 cm M A11 - Deplete A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu Type: Marginal hy	Watseka loamy sar Aquic Hapludolls  Horizon  1 2 3 4 dicators (check he bipedon stic n Sulfide d Layers luck ed Below Dark Surface lark Surface luck Mineral cky Peat or Peat N/A	Color 10YR 10YR 10YR 10YR re if indic	he absence of in  Matrix (Moist)  2/1  2/1  4/1  4/1    cators are	% 100 99 100 99 e not pres S4 - Sand S5 - Sand S5 - Sand S6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	C=Concentration  10YR 10YR 10YR Sent ①) y Gleyed N y Redox bed Matrix by Muck Mi ny Gleyed N eted Matrix x Dark Sur eted Dark S x Depressi	eries Drainage Class:  N. D=Depletion, RM=Reduced Matrix, CS:  Red  Color (Moist)   4/4   4/4   Matrix  face Surface ons	somewhat postsored sand of dox Features  % 1 1 Indicators  Indicators  Hydric Soil	Type  C C C C C For Problem A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla	Location  M M M	e present, unless disturbed or problematic.



Project/Site:	Clark Property				Wetland ID: W-1 Sample Point <b>P-6</b>
VEGETATION	(Species identified in all uppercase are non-na	ative spec	ies.)		
Tree Stratum (Plo	ot size: 30 ft radius)	~ ~ ~ ~ ~		1 20 - 1 - 1	Daminanaa Taat Markabaat
1.	<u>Species Name</u>	% Cover	<u>Dominant</u>	Ind.Status	Dominance Test Worksheet
2.			m m	300 GGS	Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
3.	35 MA				Number of Dominant Species that are OBL, FACW, of FAC(A)
	<b>40-10</b>	DOX DOX	300.004	300 600	Total Number of Deminent Species Agrees All Strate: (P)
<u>4.</u>	<b>30.</b> 30.	100 E01	00x 90x	GGK 50st	Total Number of Dominant Species Across All Strata:0 (B)
5.	<b>ALT</b> 50	60X 500	300 GO	300.000	Decree of Deminent Species That Are OBL EACIN or EAC: NA (A/B)
6.	<b>30.30</b>	100 000	000 000	00X 50X	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
7.	<b>44</b>	oox see	300.004	300.000	Dravelance Index Workshoot
8.		<b>20 00</b>	aar 100	ess 100	Prevalence Index Worksheet
9.		000 NOS	200 000	xx ex	Total % Cover of:  Multiply by:
10.	Total Cover =		001 10E	ess 100	OBL spp. 0
	Total Cover =	0			FACW spp. 0 X 2 = 0
- : :0: 1.0:					FAC spp. 0
Sapling/Shrub Stra	atum (Plot size: 15 ft radius)	***************************************			FACU spp. 0 X 4 = 0
1.	men.	MX 500	***	****	UPL spp 0
2.	001 001	VAN 1994	A44 944		
3.	60 ACC	000 000	900 SON	WA 100	Total 0 (A) 0 (B)
4.	60 90	WA 100	nor 1000	~ ~	
5.		~~~	wa sa	***	Prevalence Index = B/A =
6.		WA 1991	AN 9M	~~~	
7.	****	AND TANK	999 999	VAN 1004	
8.	w/ w/	100 MW	AN 100		Hydrophytic Vegetation Indicators:
9.	00.00	001 000	900 900	VAN 1004	☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
10.	100 TOA	VAN 1996	AN 100	AN 100	☐ Yes ☑ No Dominance Test is > 50%
	Total Cover =	0			☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
					☐ Yes ☑ No Morphological Adaptations (Explain) *
Herb Stratum (Plo	t size: 5 ft radius)				☐ Yes ☑ No Problem Hydrophytic Vegetation (Explain) *
1.	AM AM	A00 800	60A 50A	WA 300	* Indicators of budgic call and watland budgalogy must be
2.	60 DA		200 too	u	* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3.	20.00			w.m.	present, unless disturbed of problematic.
4.	90 NA	w. m.			Definitions of Vegetation Strata:
5.	***	A00 550A	60X 50X	WA 1996	
6		w. m.	200 000	us	Tree - Woody plants 3 in. (7.6cm) or more in diameter at
7.					breast height (DBH), regardless of height.
8.	100 MA	w. w.			
9.	00 AO	100 MA	WA SHE	WA 1994	Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.	do tox	994 994	200 100	,00 too	ft. tall.
11.	20.00		w.m.	w.m.	
12.		w. m.			Herb - All herbaceous (non-woody) plants, regardless of size,
13.	28.00	AN 190	998 999	w. m.	and woody plants less than 3.28 ft. tall.
14.		900 DW	200 500	200 500	
15.	00 AM				Woody Vines - All woody vines greater than 3.28 ft. in height.
10.	Total Cover =	0	••••		troody vinos - 7 5
	Total Cover –	U			
10/	(District 20 th and inc)				
Woody vine Stratt	um (Plot size: 30 ft radius)				
1.	<b>30-30</b>	UA 300	, MA 1004	300 TOS	
2.	## MP	,00 ma	WA 300		Under the Verestation Present TVee TNe
3.	<b>30 0</b> 0	w.w.		AN 400	Hydrophytic Vegetation Present ☐ Yes ☑ No
4.	M 200			w. m.	
5.			200 500	AND 1800	
	Total Cover =		-111	* 6" = 1 =1 -	
Remarks:	No weedy species were observed.	iin active	agriculti	ural field p	planted to soybeans in 2014; crop had been harvested at time of field investigation.

### **Additional Remarks:**

Sample point located in active agricultural field, harvested at the time of field investigations. Sample point within area subject to flooding during wet years; however, the lack of wetland hydrology and hydric soil indicators observed and the lack of hydrophytic vegetation support the upland determination.

#### WETLAND DELINEATION REPORT

Clark Property Wetland Delineation Appendix C– Site Photographs December 15, 2014

## Appendix C – Site Photographs





Photo 1. View from sample point P-1, view facing north



Photo 2. View from sample point P-2, view facing west

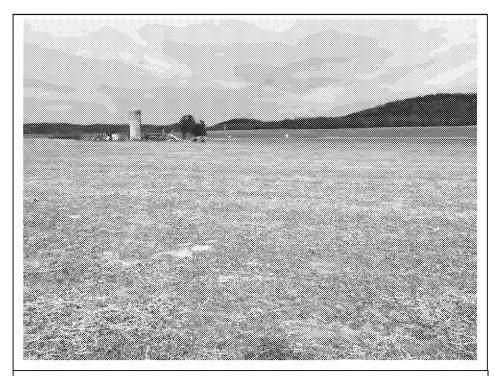


Photo 3. View from sample point P-2; view facing northwest



Photo 4. View from sample point P-3; view facing northwest



Photo 5. View from sample point P-4; view facing southeast



Photo 6. View towards sample point P-5 within wetland W-1; view facing southeast



Photo 7. View from sample point P-6; view facing west

#### WETLAND DELINEATION REPORT

Clark Property Wetland Delineation Appendix D– WETS Analysis December 15, 2014

## Appendix D - WETS Analysis



#### **WETS Analysis Worksheet**

Project Name: Clark Wetland Delineation

Project Number: 193703359

Period of interest: August-October, 2014

Lone Rock Tri-County Airport (WI921) Station:

Sauk County, WI County:

Long-term rainfall records (from WETS table)

<b></b>	toilli i ailliai			,
		3 years in 10		3 years in 10
	Month	less than	Normal	greater than
1st month prior:	October	1.37	2.08	2.49
2nd month prior:	September	1.83	3.15	3.83
3rd month prior:	August	2.80	4.01	4.77
		<b>*</b>	A A 4	

Sum = 9.24

Site determination

Site	Condition	Condition**	Month	
Rainfall (in)	Dry/Normal*/Wet	Value	Weight	Product
2.51	Wet	3	3	9
2.37	Normal	2	2	4
3.09	Normal	2	1	2
7.97			Sum*** =	15

\*Normal precipitation with 30% to 70% probability of occurrence

Determination:

Wet Dry

\*\*Condition value: \*\*\*If sum is:

Normal

Dry =

6 to 9

then period has been drier than normal

Normal = 2

10 to 14 then period has been normal

Sum =

Wet = 3

then period has been wetter than normal 15 to 18

Precipitation data source:

NRCS Field Office Technical Guides - Agricultural Appilied Climate Information System WETS table

Reference:

Donald E.Woodward, ed. 1997. Hydrology Tools for Wetland Determination, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture,

Natural Resources Conservation Service, Fort Worth, TX.

#### WETLAND DELINEATION REPORT

Clark Property Wetland Delineation Appendix E- FSA Aerial Slide Analysis December 15, 2014

## Appendix E - FSA Aerial Slide Analysis



Farm Service Agency Aerial Color Slide Review<sup>1</sup>

#### Clark Property Wetland Delination - Spring Green, WI

Project Location: Section 02, Township 08N, Range 03E, Sauk County

Project Loc		-		ange ∪o⊏, oau	K County		
Year		/ Rainfall in		Relative Wetness	Cropped <sup>3</sup> ?	Wetness 450	Interpretation
	April	May	June	vveuless		Signature <sup>4,5</sup> ?	Soils appear darker in northern half of field extending to
1985	2.08	3.34	1.63	Dry	CR	Y-; 6d, 8	the southeast, with darker areas that indicate saturated
90 90 90 90							soils Soils appear darker in northern half of field extending to
1986	2.18	2.60	1.47	Dry	CR	Y-; 6d, 8	the southeast, with darker areas that indicate saturated
1987	0.00	5 47		Normal	CR	N	soils
120		•		1101116		i i	No wetness signatures observed Soils appear darker in northern half of field extending
1988	2.42	0.93	0.63	Dry	CR	Y-; 6b, 6d, 8	southeast with more crop growth evidenced by darker
1000	1.51	2.51	2.56	Dmi	CR	N	green coloration  No wetness signatures observed
1989	1.51	2.51	2.56	Dry	CK	14	Soils appear darker in northern half of field extending to
1990	2.98	0.00	7.70	Normal	CR	Y-: 6d, 8	the southeast, with darker areas that indicate saturated
							soils Soils appear darker in northern half of field extending to
1992	3.78	2.06	1.25	Normal	CR	Y-; 6d, 8	the southeast, with darker areas that indicate saturated
000							soils  Large area of ponded water extending into adjacent field;
1993	6.05	5.27	8.04	Wet	CR	Y+; 1, 3, 4, 6b, 6c, 6d, 6e, 8	stressed/drowned crop along periphery of ponded area
***************************************	~~~~~						Soils appear darker/saturated in northern half of field with
99999999999999999999999999999999999999							similar signature extending east into adjacent field - not
1994	3.16	1.92	5.87	Wet	NC	Y-; 6d, 8	cropped due to wetness; southwestern portion of field cropped - irrigation line and row crop visible
30 00 00 00 00 00 00 00 00 00 00 00 00 0							
1996	2.61	3.23	6.80	Wet	CR	Y-; 6d, 8	Soils appear darker in northern half of field with smaller darker areas indicating saturated soils
1997	0.95	3.30	3.88	Normal	CR	N	No wetness signatures observed
300000000000000000000000000000000000000						Y+; 3, 4, 6b, 6c,	Areas of bare soil/drowned crop, saturated soils, stressed
1998	4.10	4.63	10.85	Wet	CR	6d, 6e, 8	crop predominantly in northern half of field and extending southeast
						Y+; 3, 4, 6b, 6c,	Areas of bare soil/drowned crop, saturated soils/ponded
1999	11.82	4.18	5.14	Wet	CR	6d, 6e, 8	water, stressed crop predominantly in northern half of field and extending southeast
000000000000000000000000000000000000000							Soils appear darker/saturated in northern half of field,
2000	1.97	7.96	10.61	Wet	NC	Y+; 3, 4, 6a, 6d, 6e, 8	extending to southeast - not cropped due to wetness, with similar signature extending east into adjacent field;
99							southwestern portion of field cropped normally
2001	3.28	5.10	3.73	Normal	CR	Y-; 6d, 8	Soils appear darker in northern half of field extending to the southeast, with darker areas that indicate saturated
000000000000000000000000000000000000000						, , , , , ,	soils
2002	3.68	5.69	5.48	Wet	CR	Y+, 3, 4, 6b, 6d, 8	Area of bare soil/drowned crop with crop stress along periphery within northern half of field, extends to the
							southeast to adjacent field
2004	1.67	10.34	5.34	Wet	CR	Y+; 3, 4, 6d, 8	Areas of bare soil/drowned crop, saturated soils, stressed crop predominantly in northern half of field and extending
000000000000000000000000000000000000000						, , , ,	southeast
2005	0.70	2.56	4.05	Normal	CR	Y-; 6d, 8	Area of mottled darker soils in northern half of field extending southeast
2006	5.94	4.18	4.09	Wet	CR	N	No wetness signatures observed
2000	0.05	0.44	0.50		op.	Y+; 1, 3, 4, 6d,	Large area of ponded water in northern half of field
2008	2.95	3.14	8.53	Wet	CR	6e, 8	extending southeast into adjacent field; stressed/drowned crop along periphery of ponded area
000						VI. 4 Ch Co Cd	Soils appear darker/saturated in northern half of field,
2010	5.80	3.34	10.09	Wet	CR	Y+; 4, 6b, 6c, 6d, 8	extending to southeast - not cropped due to wetness;
000000000000000000000000000000000000000							southwestern portion of field cropped normally  New ditch apparent running across site from W-E and
2013	4.58	5.42	9.60	Wet	CR	Y-; 5, 6b, 6d, 7b,	diagonally to SE corner; difference is crop color in
						8	northern v. southern field portions, area of dark, saturated soils to the west of diagonal ditch
30%	0.04	4.00	0.00				
chance less than	2.31	1.89	2.63	BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB			
30 Year	3.08	2.80	3.80	000000000000000000000000000000000000000			
Average 30%				B0000000000000000000000000000000000000			
chance	3.60	3.35	4.52	B0000000000000000000000000000000000000			
more than							
				_			

Does slide/aerial photo analysis indicate the site is a wetland? Yes

3 out of 4 of the most recent "normal" precipitation years had wetland signatures present.

DRY NORMAL WET

<sup>1</sup> Assumption is made that FSA slides are taken in July; as a result, precipitation analysis focuses on three months prior to July.

1 of 1

<sup>&</sup>lt;sup>2</sup> Yrs 1985-2000 precipitation data from NWS weather station #WI7158 - Richland Center, WI; Yrs 2001-2013 precipitation data from NWS weather station #WI921 - Lone Rock Tri-County Airport, WI

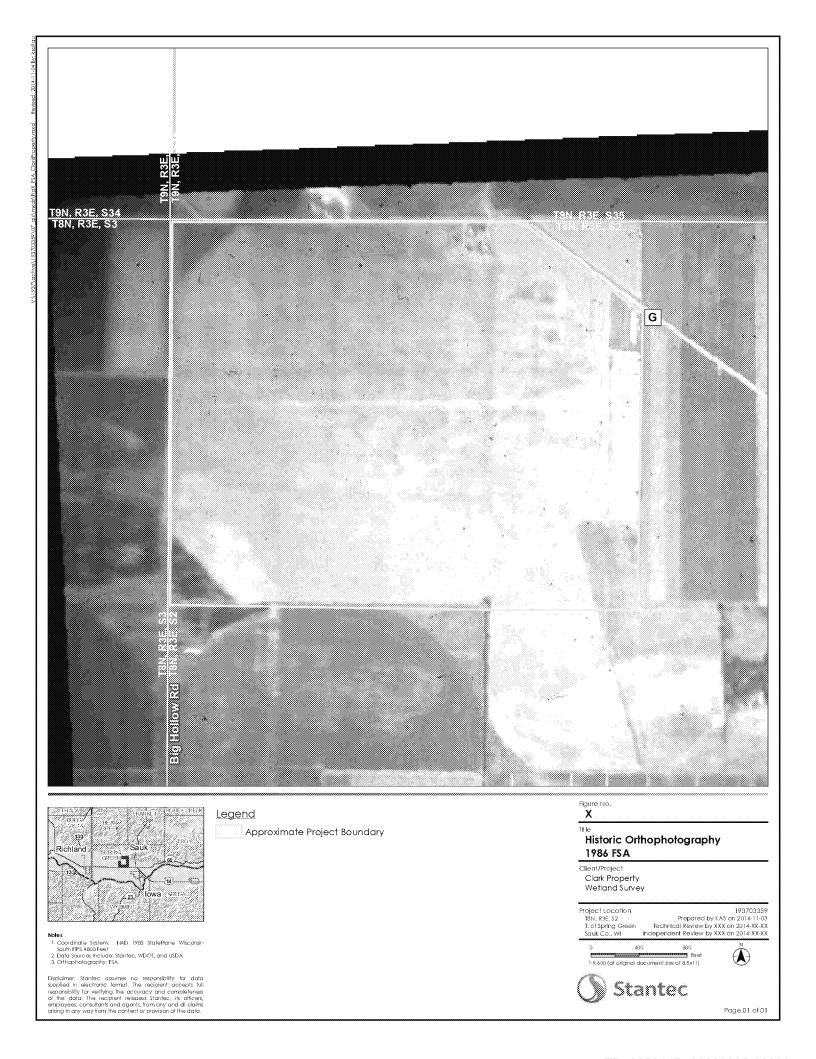
 $<sup>^3</sup>$  CR = cropped (row crop or tilled), NC = not cropped (hay, pasture, fallow, etc.)

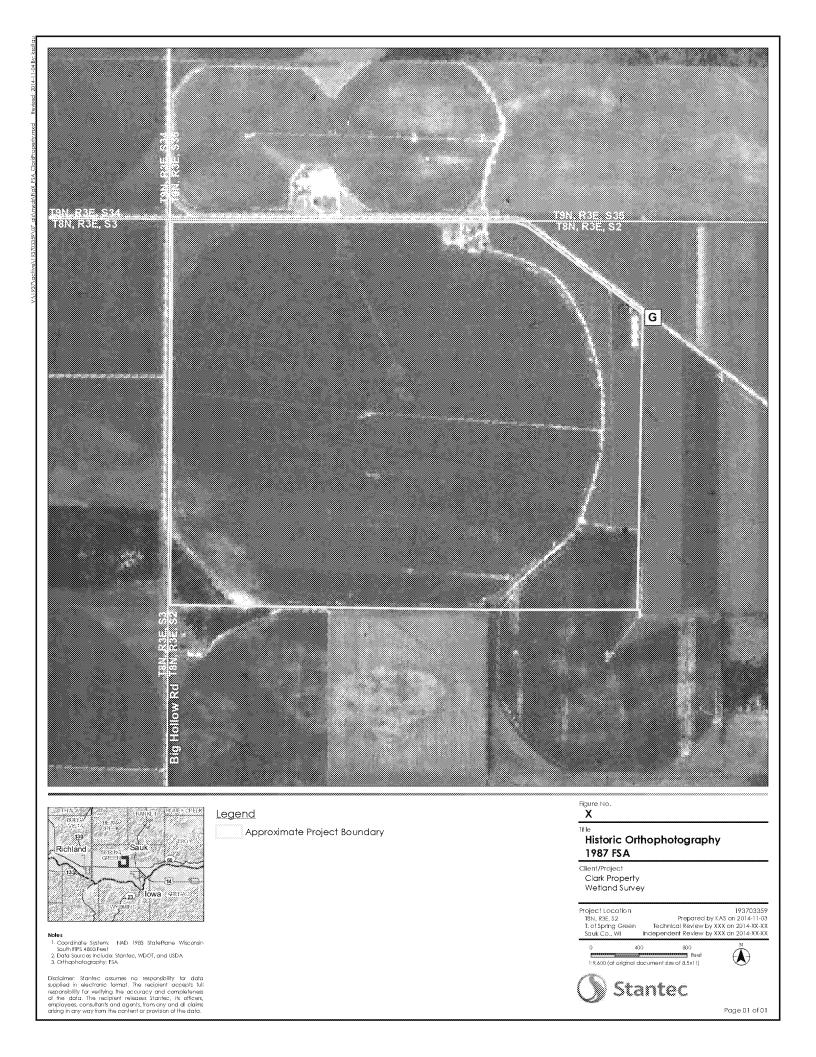
<sup>&</sup>lt;sup>4</sup> Y = wetness signature present (+ = strong, - = weak); N = No wetness signature

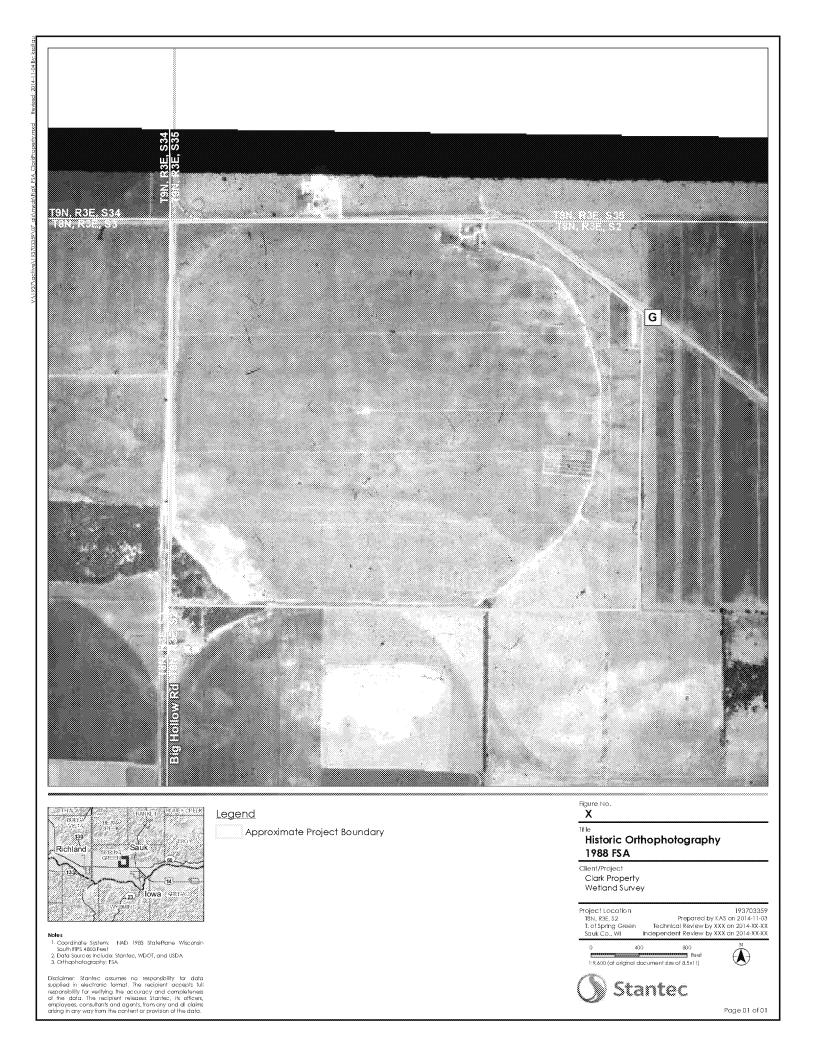
<sup>&</sup>lt;sup>5</sup> Interpretation Codes - Feature: 1=water, 2=mud flat, 3=bare spot, 4=drowned crop, 5=planted late; Color: 6a=dark green, 6b=light green, 6c=yellow, 6d=brown, 6e=black; Manipulation: 7a=ditched, 7b=tiled, 7c=filled, 7d=tree/brush removal, 8=plowed/tilled; Other: write explanation as needed

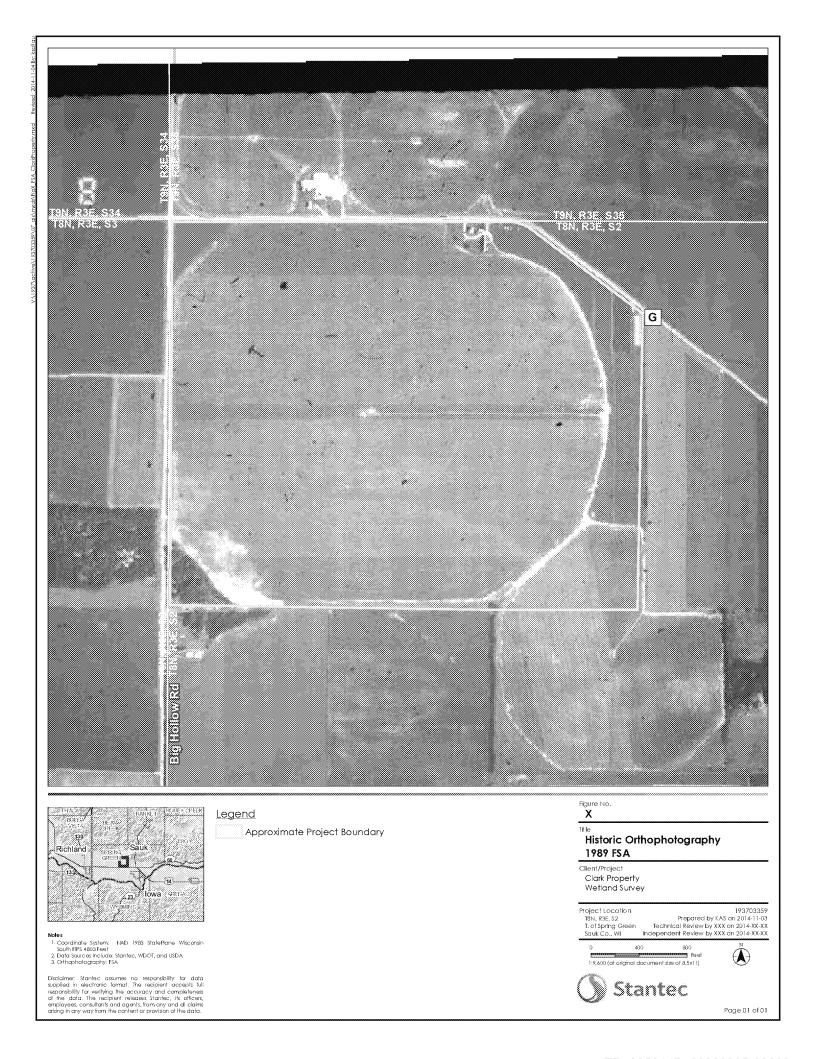


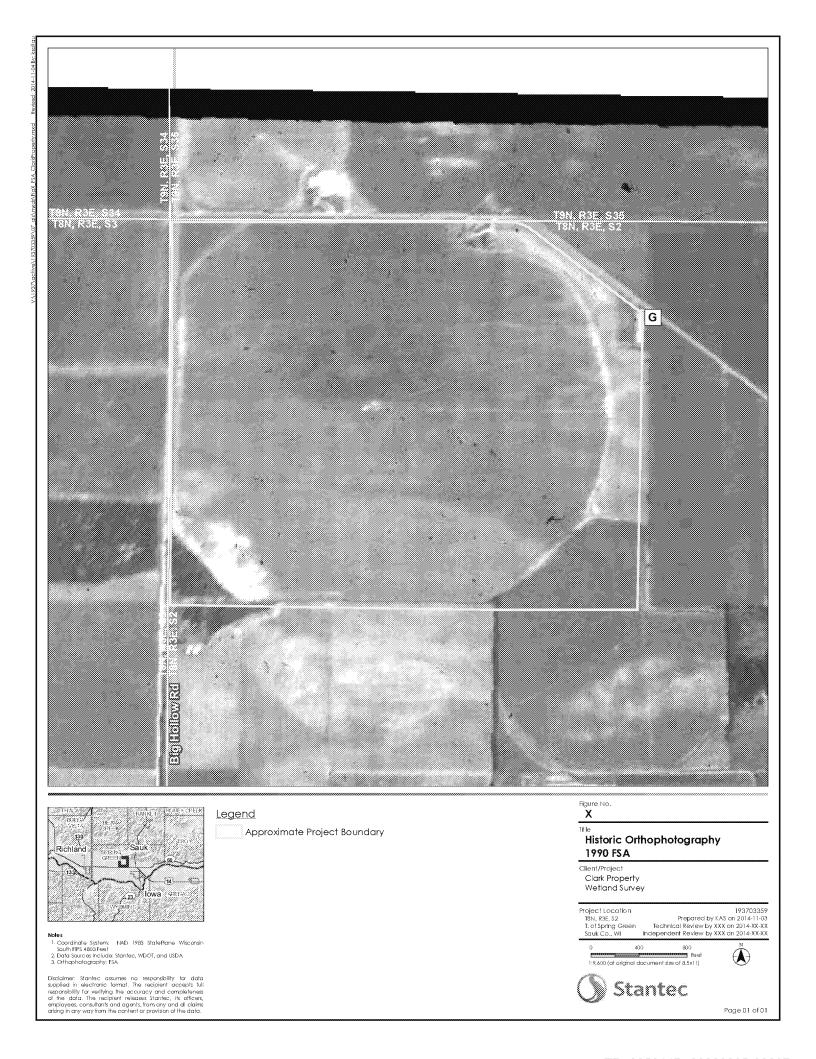
### ED\_005814B\_00000005-00062

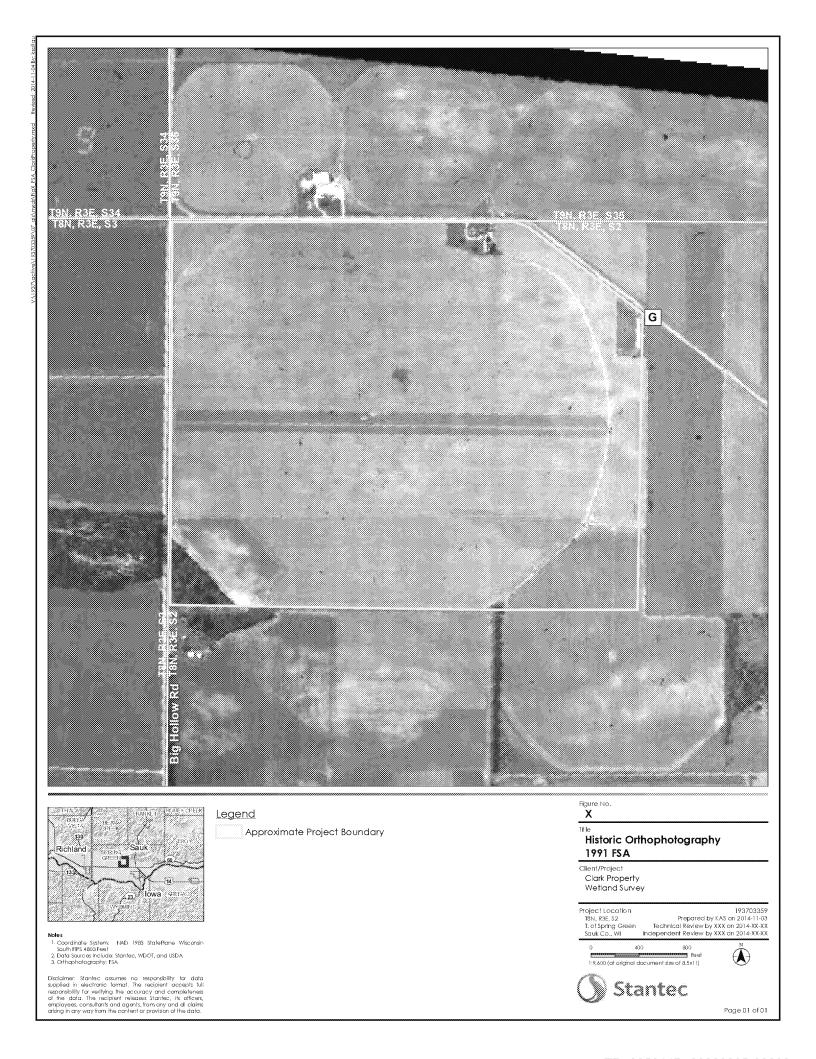




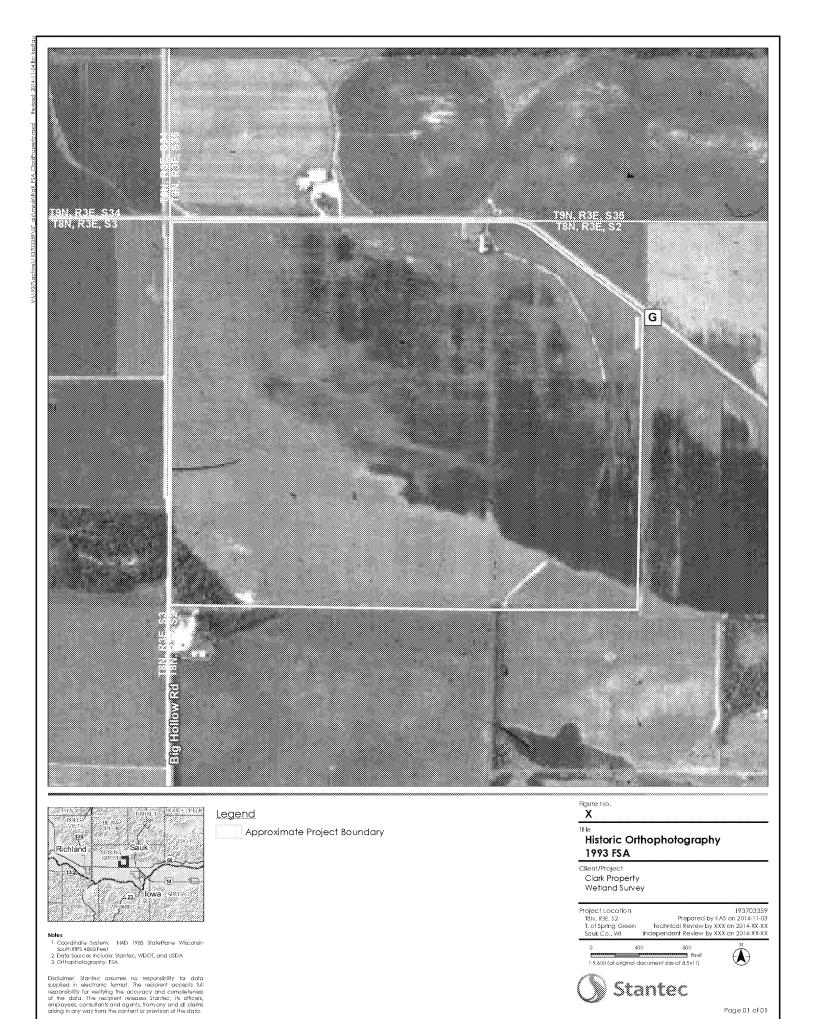
















- Notes

  1. Coordinate System: NAD 1983 StateRane Wisconsin South FIRS 4803 Feet

  2. Data Sources include: Stantec, WDOT, and USDA

  3. Orthopholography: FSA

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases stantec, its officers, enclosers, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Approximate Project Boundary

Historic Orthophotography 1996 FSA Client/Project Clark Property Wetland Survey

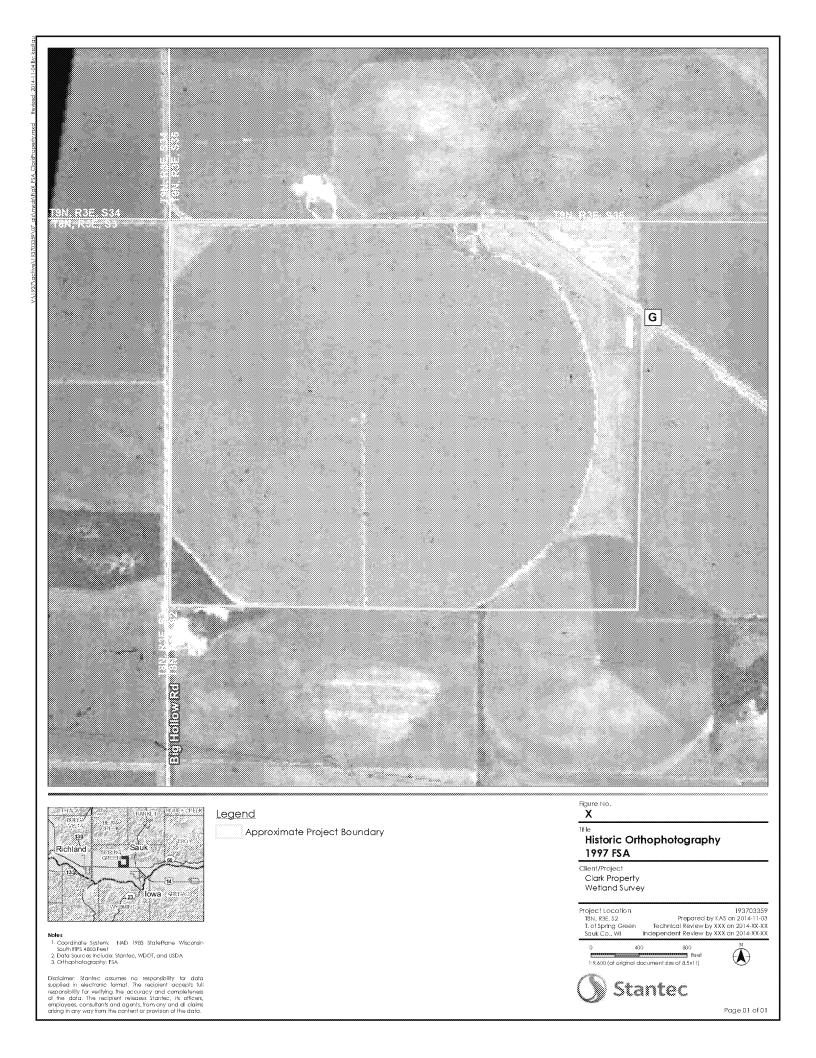
Project Location 18N, R3E, S2 T. of Spring Green Sauk Co., WI

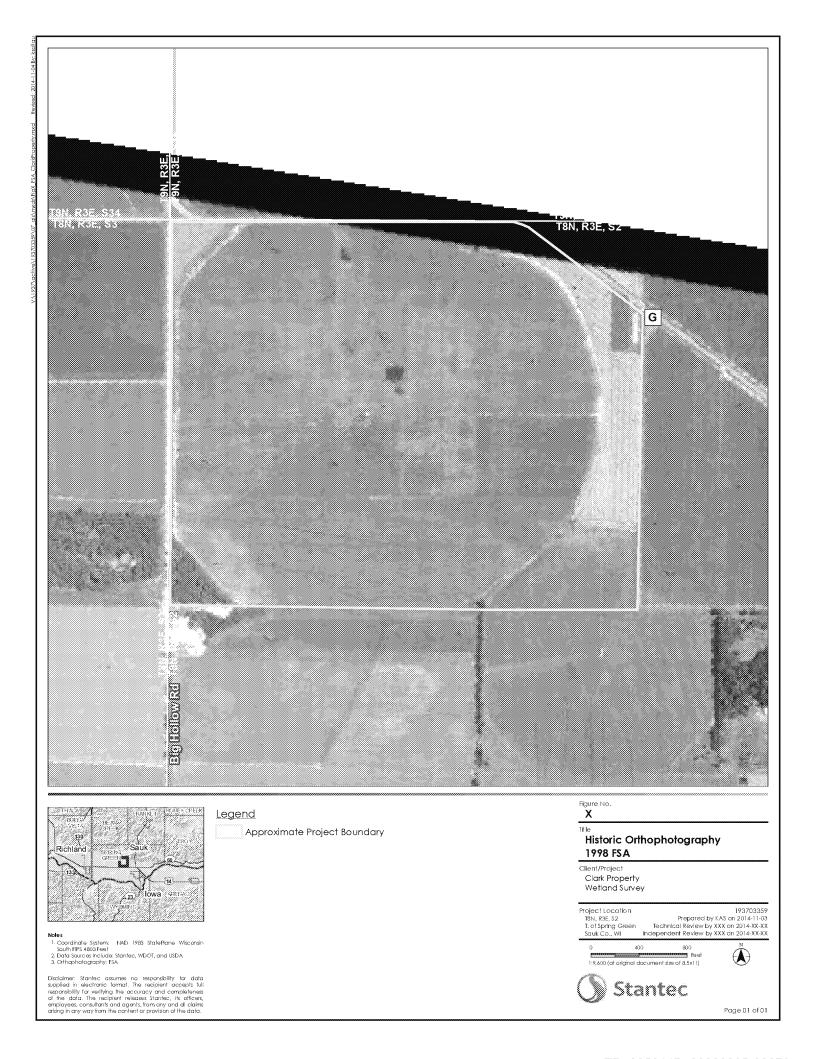
193703359 Prepared by KAS on 2014-11-03 Technical Review by XXX on 2014-XX-XX Independent Review by XXX on 2014-XX-XX

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Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feel

2. Data Sources Include: Stanlec, WDOT, and USDA

3. Orthophotography: FSA

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Project Location 18N, R3E, S2 T. of Spring Green Sauk Co., WI

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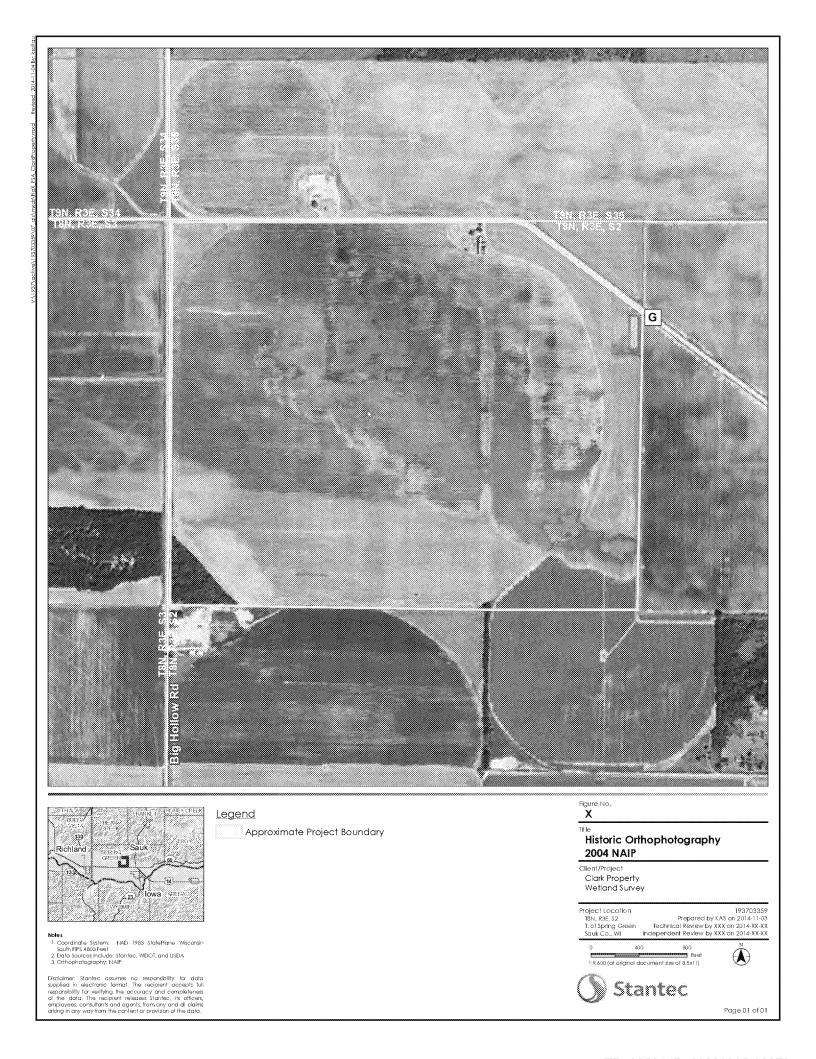


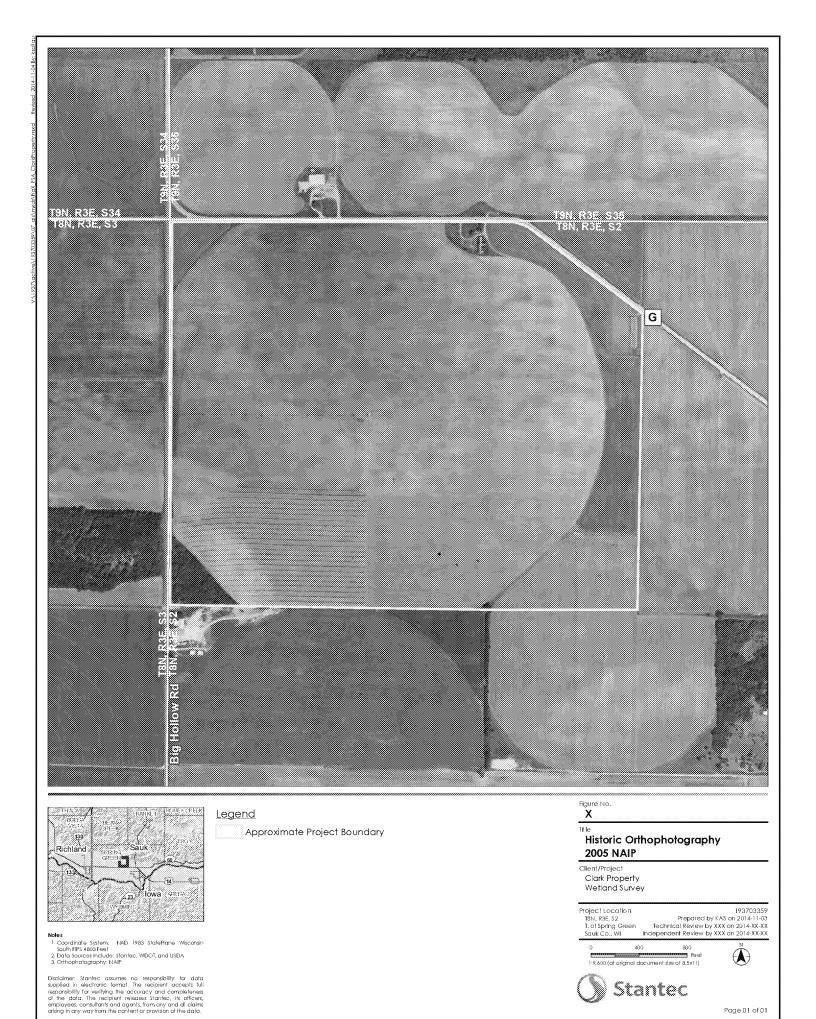


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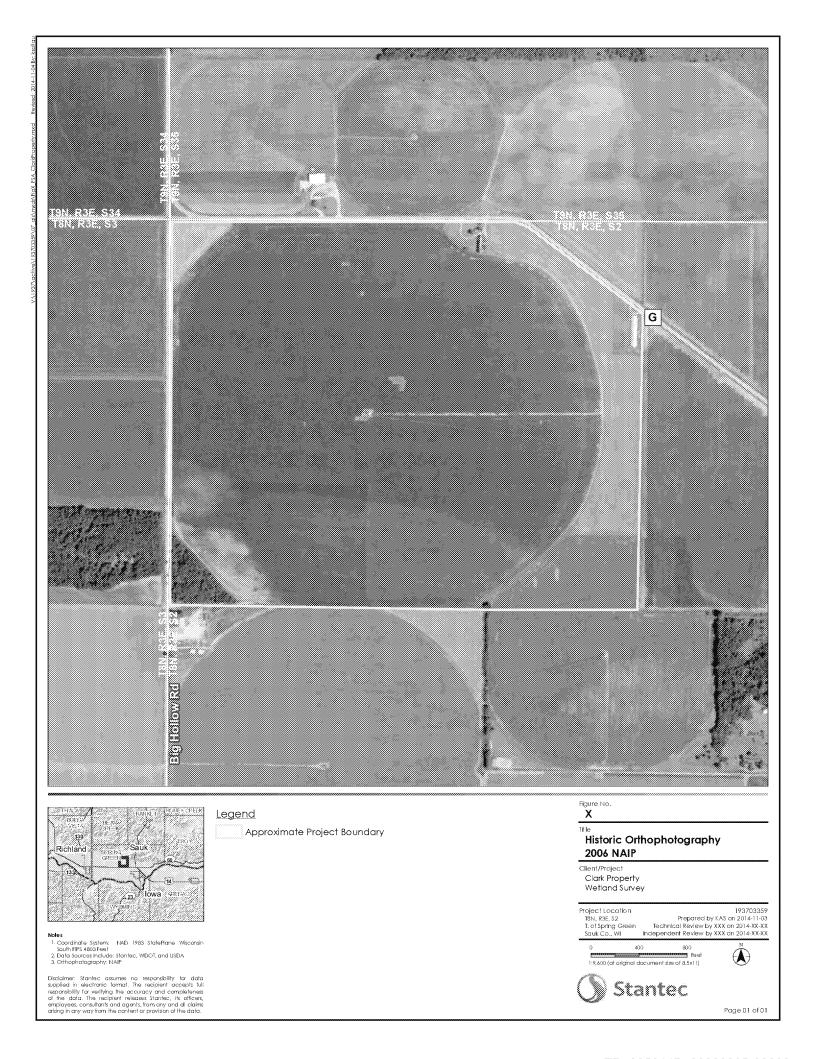


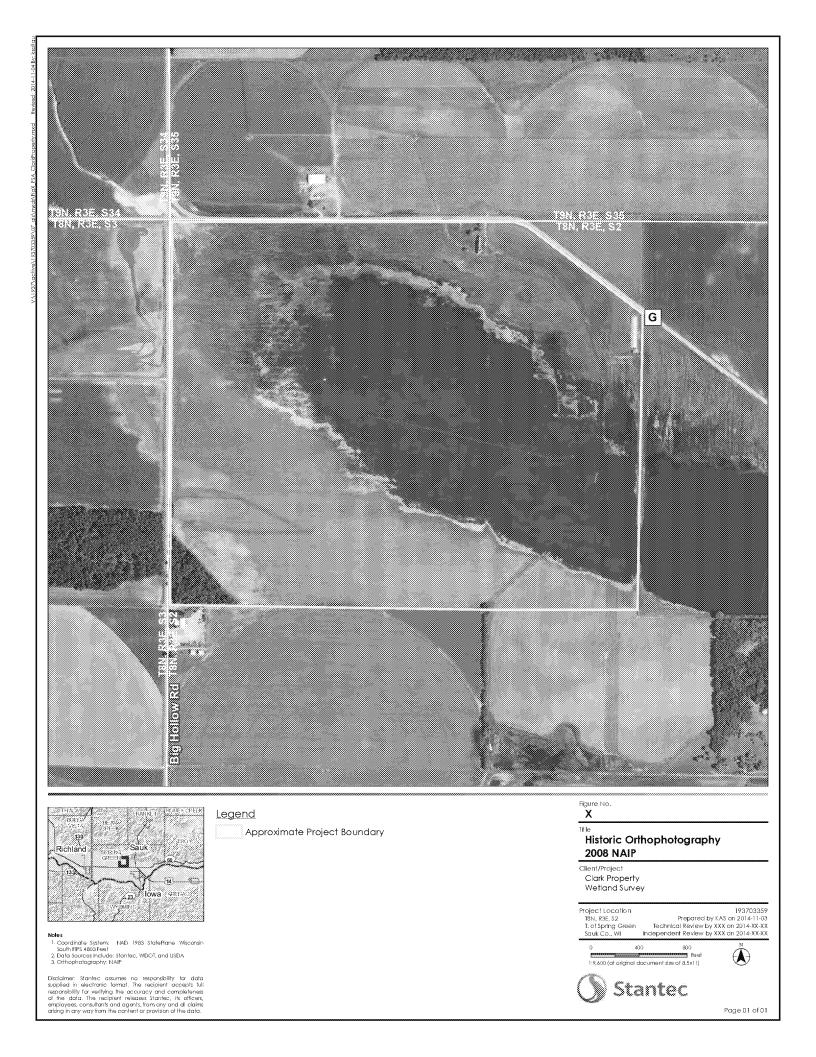


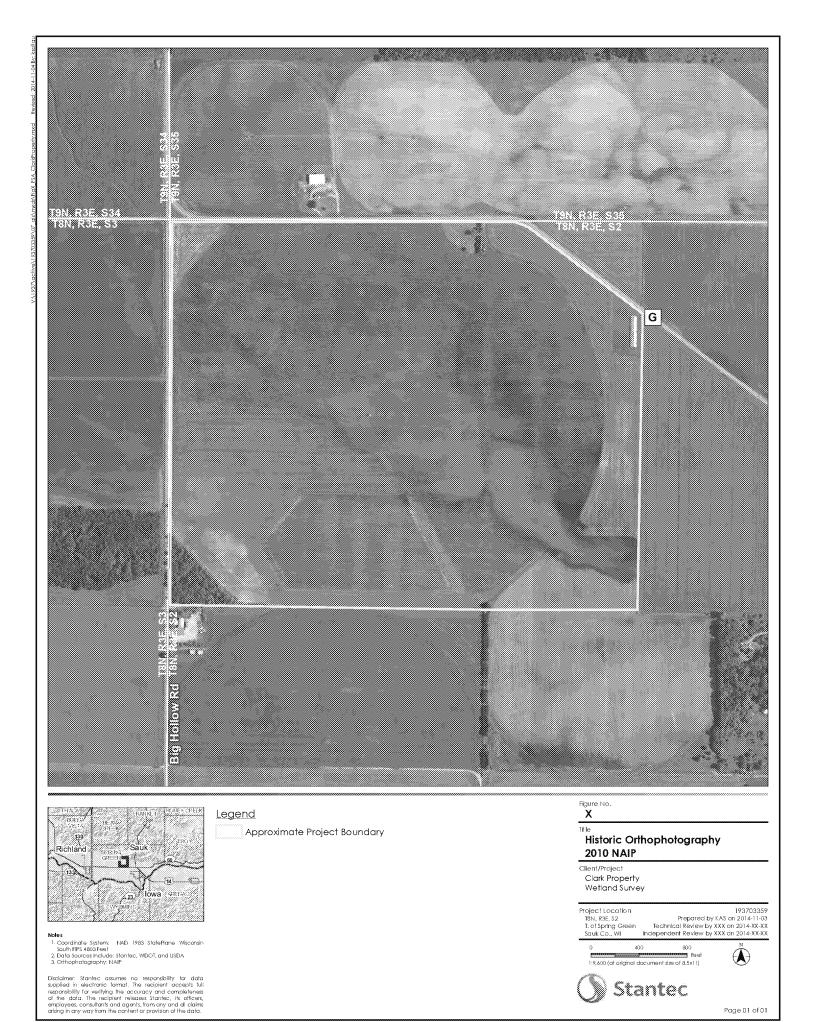


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Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feel

2. Data Sources Include: Stanlec, WDOT, and USDA

3. Orthophotography: NAIP

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Approximate Project Boundary

### Historic Orthophotography **2013 NAIP**

Client/Project Clark Property Wetland Survey

Project Location 18N, R3E, S2 T. of Spring Green Sauk Co., WI 193703359 Prepared by KAS on 2014-11-03 Technical Review by XXX on 2014-XX-XX Independent Review by XXX on 2014-XX-XX

1:9,600 (at original document size of 8.5xl i)





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### WETLAND DELINEATION REPORT

Clark Property Wetland Delineation 0Resume December 15, 2014

### Resume



### Jeffrey D. Kraemer w.P.LT.

Senior Scientist / Project Manager



Mr. Kraemer specializes in environmental regulatory support and policy. He has substantial experience working with the local, state, and federal regulatory agencies on complex, often controversial projects. Mr. Kraemer has substantial experience assisting clients at the project planning level to identify and plan for environmental regulatory implications and risk across many industry sectors with particular expertise in the utility and private development industries. Mr. Kraemer has a thorough understanding of the technical and regulatory aspects of environmental projects. His experience includes: Project critical issues analysis/permitting feasibly assessments; Wetland and other natural resource investigations, mitigation planning, and permitting; Clean Water Act and Endangered Species Act studies and consultation; and National Environmental Policy Act documentation (EA/EIS).

In addition to environmental regulatory expertise, Mr. Kraemer has a strong technical background in wetland ecology and botany and manages Stantec's Midwest ecological restoration implementation group. This group is responsible for building, managing, and monitoring natural area restoration projects such as wetland mitigation. Mr. Kraemer is an assured wetland professional through the Wisconsin Department of Natural Resources Wetland Delineation Professional Assurance Initiative and has extensive environmental consulting experience as both a field ecologist and project manager.

### EDUCATION

Wetland Training Institute, Training, Wetland Soils and Hydrology, 2003

Vegetation of Wisconsin Workshop, Training, UW-Milwaukee, 2000

Wetland Delineation Training Workshop, Continuing Education and Extension, UW-La Crosse, 2001

Identification of Sedges Workshop, Training, UW-Milwaukee, 2001

Environmental Corridor Delineation Workshop, Training, Southeastern Wisconsin Regional Planning Commission (SEWRPC), 2004

M.S. – Biological Sciences (Emphasis in Wetland Ecology), University of Wisconsin, Milwaukee, Wisconsin, 2003

B.S. – Biological Sciences (Emphasis in Aquatic Biology), University of Wisconsin, La Crosse, Wisconsin, 1999

Assured Wetland Delineator, Milwaukee, Wisconsin, 2008

#### REGISTRATIONS

Professionally Assured Wetland Delineator, Wisconsin Department of Natural Resources

Wetland Professional in Training (WPIT), Society of Wetland Scientists Certification Program

### MEMBERSHIPS

Member, Society of Wetland Scientists

Member, Wisconsin Wetlands Association

#### PROJECT EXPERIENCE

#### Commercial / Retail Development

Commercial Development, Windsor, Wisconsin Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation planning in support of the commercial development project.

### Fitchburg Technology Campus, Fitchburg, Wisconsin

Completed woodland assessment, tree survey, and woodland restoration and management plan in support of retail and commercial development project.

<sup>\*</sup> denotes projects completed with other firms

### Jeffrey D. Kraemer weut.

Senior Scientist / Project Manager

#### **Conventional Power**

### Edgewater Generation Facility, Sheboygan, Wisconsin

Managed and coordinated environmental regulatory process for expansion of existing fly-ash disposal facility which required approvals from the USACE and WDNR for wetland impacts associated with the project.

#### Waukegan Power Station, Lake County, Illinois

Provided threatened and endangered species consultation and wetland surveying along Lake Michigan shorelines for permitting a dredging activity and expansion of the facility.

### Nelson Dewey Power Generation Facility Expansion Project, Caseville, Wisconsin

Completed comprehensive field evaluations of wetlands in preparation of NEPA documentation for expansion of the facility.

### Waukegan Power Generation Facility Expansion Project, Lake County, Illinois

Completed field evaluations of wetlands and threatened and endangered species in coordination with Section 404 permitting requirements for expansion of the facility.

### Invasive Species Survey, Prairie Du Sac, Wisconsin

Conducted a purple loosestrife survey on Lake Wisconsin shorelines and wellands in order to develop a purple loosestrife management plan in support of the hydroelectric facility FERC licensing.

#### **Ecosystem Restoration**

### Campus Facility Native Landscape Management, Milwaukee County, Wisconsin

Managed and coordinated development of a native landscape plan for the 50 acres of open space surrounding Northwestern Mutual's campus facility. The plan consisted of wetland, woodland, and prairie restoration. Following completion and approval of the plan, continued to manage and coordinate the implementation of native landscape installation and long-term management.

### Threatened Plant Species Consultation, Port Wing, Wisconsin

Completed comprehensive study of a threatened plant species population (Petasites sagittutus) in support of STH 13 Reconstruction project including preparation of relocation and monitoring plan, physical relocation of plants, and follow-up annual monitoring. This project resulted in one of the first documented, successful relocation of this species after five years of monitoring.

### Neptune Wetland Mitigation Site, Richland County, Wisconsin

Completed armual comprehensive vegetation surveys, mapping, performance evaluations, and reporting of a 50-acre wetland mitigation bank site.

### Lake Koshkonong Water Level and Wetland Studies, Lake Koshkonong, Wisconsin

Developed and conducted wetland studies for development of a water level management plan: E. prairie fringed orchid hydrology study; Floodplain forest/hydrology study; Floristic quality assessment/vegetation mapping within 4000 acres of wetlands.

### Wildcat Mountain Wetland Mitigation Monitoring, Vernon County, Wisconsin

Completed comprehensive vegetation surveys, mapping, performance evaluations, and reporting of 38-acre mitigation site.

### Jug Creek Wetland Mitigation Monitoring, Vernon County, Wisconsin

Completed comprehensive vegetation surveys, mapping, performance evaluations, and reporting of 10-acre mitigation site.

### Wetland Mitigation Bank Monitoring and Remediation, Oakdale, Wisconsin

Completed annual mitigation site monitoring, vegetation surveys, and performance evaluations of 60-acre mitigation bank site. Completed mitigation remediation management plan for compliance with USACE performance standards.

#### Samuelson Fen Restoration, Portage, Indiana

Developed restoration plan to restore a degraded 30-acre fen, conducted vegetation surveys, floristic quality assessments and hydrology monitoring.

<sup>\*</sup> denotes projects completed with other firms

### Jeffrey D. Kraemer weut.

Senior Scientist / Project Manager

#### Healthcare

### Badger Prairie Health Care Center Expansion Project, Verona, Wisconsin

Completed wetland delineation/evaluations and wetland permitting in support of the expansion of the healthcare facility.

#### Oil and Gas Pipelines

New Gas Pipeline Project, Wausau, Wisconsin Completed environmental surveys along proposed gas pipeline corridor including environmental assessments, threatened and endangered plant species survey, and identification of wetland and upland community types.

#### Southern Access Expansion Project, Wisconsin

Crude Petroleum Pipeline Project. Completed wetland delineations and habitat assessments along a 343 mile proposed crude petroleum pipeline corridor through Wisconsin as part of Enbridge Energy's Southern Access Expansion Program.

#### **Power Transmission & Distribution**

#### ComEd Prairie Programs, Various Locations, Illinois

Project manager for supporting ComEd's Prairie Program. ComEd initiated this program to restore native prairie habitats within their electric transmission Rights-of-way (ROW) and buffers. Stantec manages this program in coordination with ComEd which includes development of native management plans; coordination with site stewards; development of annual budgets; development of performance standards, and identifying new sites and stewards for program expansion. Stantec's implementation services include a full range of prairie restoration and management including preparing and installing new prairies and managing existing prairies through herbiciding, mowing, shrub removal; and prescribed burning. Currently there are over 100 acres of ROW within the prairie program in various stages of development.

### Prairie Program

Project manager for supporting ComEd's Prairie Program. ComEd initiated this program to restore native prairie habitats within their electric transmission Rights-of-way (ROW) and huffers. Stantev manages this program in coordination with ComEd which includes development of native management plans; coordination with site stewards; development of annual budgets; development of performance standards, and identifying new sites and stewards for program expansion. Stantec's implementation services include a full range of prairie restoration and management including preparing and installing new prairies and managing existing prairies through herbiciding, mowing, shrub removal; and prescribed burning. Currently there are over 100 acres of ROW within the prairie program in various stages of development.

### Electric Transmission Line Projects

Managed support for environmental and GIS services to gain regulatory approvals for new transmission lines. Provided project support for: transmission line siting; critical issues analysis; route matrices; GIS data acquisition and mapping services, coordination of regulatory agency meetings, completion of field welland delineations; threatened and endangered species; biological assessment and Section 404 permitting, CPCN approvals; community advisory and public workshop support, and expert witness testimony. LaSalle-Ottawa, LaSalle County, IL; Wood River Refinery, Madison County, H.; Rockwood-Big River, Jefferson County, MO; Saddle Creek 73, Franklin County, MO. Havana Rebuild, Mason County, IL

### 345 kV Transmission Line Project, Wisconsin

Arrowhead to Weston. Completed wetland delineations, threatened and endangered plant surveys, and habitat assessments along a 208 mile proposed new transmission line.

### Endangered Species Support, Wisconsin

Conducted Karner Blue butterfly surveys (federally endangered) along transmission line right-of-ways.

#### **Residential Development**

### Country View Estates, DeForest, Wisconsin

Completed wetland delineation/evaluation, wetland permitting, and mitigation planning in support of a 400-acre mixed residential/commercial/recreational development project.

<sup>\*</sup> denotes projects completed with other firms

### Jeffrey D. Kraemer w.p.u.t.

Senior Scienlist / Project Manager

### Northeast Neighborhood Plan, Fitchburg, Wisconsin

Developed wetland protection standards for the City of Fitchburg's NE Neighborhood Plan.

### Wesenberg Development, New Glarus, Wisconsin

Conducted threatened and endangered plant species surveys, wetland delineations, and floristic quality assessment in support of the residential development.

### Westwynde Development, Sun Prairie, Wisconsin

Completed wetland delineation/evaluations, wetland permitting, wetland mitigation planning, and upland prairie restoration planning in support of the residential development.

### Westshore Development Restoration Design, Oconomowoc, Wisconsin

Designed a 30-acre upland habitat enhancement and wetland restoration plan in support of gaining regulatory approvals for residential development.

### Warehouse / Light Industrial

### Manufacturing Facility Expansion Project, Arcadia, Wisconsin

Developed and gained WDNR/USACE approval for 35-acre welland mitigation plan in support of welland impact application for expansion of the manufacturing facility; continue to monitor and coordinate implementation of mitigation plan.

### Industrial Facility Expansion Project, Hustisford, Wisconsin

Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation planning in support of the expansion of the industrial facility.

### Trucking Facility Expansion, Franklin, Wisconsin

Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation design for expansion of the trucking facility.

<sup>\*</sup> denotes projects completed with other firms

### Jeffrey D. Kraemer w.rut.

Senior Scienlist / Project Manager

### **PUBLICATIONS**

Presentation. Lake Koshkonong Wetlands: Diversity, Floristic Quality, and Community Mapping. Lake Koshkonong Wetland Association, 2006.

Presentation. Management of the Eastern Prairie Fringed Orchid in the Lake Koshkonong Wetlands. Lake Koshkonong Wetland Association, 2006.

Presentation. Lake Koshkonong Water Level Controversy: A Balance between Recreation and Wetland Protection. WWA Annual Science Forum, 2005.

Presentation. Lake Koshkonong Water Levels and Growth Rate of Trees in Bordering Floodplain Forests.. Lake Koshkonong Wetland Association, 2005.

Presentation. Floodplain forest hydrology and management implications: Lake Koshkonong as a case study. Wisconsin Wetlands Association Annual Science Forum, 2004.

Kraemer, J. Using wetland plants as indicators of fine scale variation in hydrology: the plant community-environment relationship in sedge meadows. *Master's Thesis defense*, 2003.

Presentation. Effects of invasive plant species on natural communities. *UW-Milwaukee*, *Biology* Department, 2001.

## ATTACHMENT 3 MONITORING WELL BORING LOGS



Project: Dale Clark Site Wetland Mitigation Bank

Project No.: 1711

Location: County Road G

Spring Green, WI

Drill Date: December 21, 2015
Drilled by: Badger State Drilling

Logged by: RJM

Sampling Method: Geoprobe 1" cores

Depth R	elow Surface	VISUAL SOIL CLASSIFICATION	Sample	Feet	Feet	Sample	Sample			
zopin D	(ft)	Ground Surface Elevation: 0.0	No.	Driven	Recovered	Тор	Bottom	Remarks		
1	-1.0 —	Loamy sand						-		
2	-2.0	Loamy Sand	1					- - -		
3 <b>—</b> -	-3.0 —	Trending from loamy sand to fine/medium sand						-		
4 — - 5 —	-4.0 — -5.0 —	Fine sand	100 100 100 100 100 100 100 100 100 100					-		
6 <del></del>	-6.0 <b>V</b>		2					-  -		
7— - 8—	-7.0 <b></b> -8.0 <b></b>	Saturated with iron staining at 6.5'								
9—	-9.0									
10 —	- <b>10.0</b> —	Wet fine to medium sand. No staining observed.	3							
11 — - 12 —	-12.0	Wet fine to medium sand. No staining observed.						- -		
13 <b>—</b>	-13.0 <b></b>	<del>-</del>						- 		
14 — - 15 —	-14.0 — - - <b>15.0</b> —		4					 -		
16	-16.0	End of Boring: 16'				000000000000000000000000000000000000000		-		
Notes:	Set 1" PVC we	ell screen 6-16 ft, granular bentonite seal at surface, 3" steel ca	asing w/ locking t	op						
	Water Level / Caving Observations:  Water Level <sub>During Drilling</sub> : 6.5 ± ft (El6.5±)			Additional Comments:						
Wat	er Level <sub>Upon Co</sub> Caved at <sub>Upon Co</sub>	ompletion: ± ft (EI. 0±)	13	Boring Location Offset:  Reason for Offset:						
	Water Leve Caved a	I delayed: ± ft (El. 0±) after hr(s)	¥							

Project: Dale Clark Site Wetland Mitigation Bank

Project No.: 1711

Location: County Road G

Spring Green, WI

Drill Date: December 21, 2015
Drilled by: Badger State Drilling

Logged by: RJM

Sampling Method: Geoprobe 1" cores

Depth B	elow Surface	VISUAL SOIL CLASSIFICATION	Sample	Feet	Feet	Sample	Sample		
	(ft)	Ground Surface Elevation: 0.0	No.	Driven	Recovered	Тор	Bottom	Remarks	
1	-1.0 <del></del>	Dark sandy loam						-	
2— - 3—	-2.0	Fine to medium silt loam	1					-	
4	-4.0	Fine to medium sand	NOCK 100000 5000					-	
5 <b>—</b> - 6—	-5.0 <u> </u>	Light brown fine to medium sand	2					_	
7 <b>—</b> 8 <b>—</b>	-7.0 <del></del> -8.0 <del></del>	Saturated light brown fine to medium sand						- - -	
9 — 10 — 11 —	-9.0 — -10.0 — -11.0 —	Medium light brown fine to medium sand	3					- - - - -	
12 — 13 — 14 — 15 — 15 — 16	-12.0	Medium light brown fine to medium sand	4					- - - - -	
16	-16.0	End of Boring: 16'	***************************************				000000000000000000000000000000000000000		
Notes:	Set 1" PVC we	ell screen 6-16 ft, granular bentonite seal at surface, 3" steel c	asing w/ locking	ор					
	Nater Level / Caving Observations:			l Comme	nts:				
	ater Level Durin	ng Drilling: 6 ± ft (El6±)	<u>v</u> <u>v</u>						
		ompletion: 7 ± ft (El7±) y Time: hr(s)	Boring Lo Reason fo	Boring Location Offset: Reason for Offset:					
	Water Level Caved at		¥						

Project: Dale Clark Site Wetland Mitigation Bank

Project No.: 1711

Location: County Road G

Spring Green, WI

Drill Date: December 21, 2015
Drilled by: Badger State Drilling

Logged by: RJM

Sampling Method: Geoprobe 1" cores

Depth Belov	w Surface	VISUAL SOIL CLASSIFICATION	Sample	Feet	Feet	Sample	Sample	Domorko	
(ft)	t)	Ground Surface Elevation: 0.0	No.	Driven	Recovered	Тор	Bottom	Remarks	
1	-1.0 — -	Black soft silty loam to 2'						-	
3—	-2.0 -3.0 <b>V</b>	Tan sand	1					- -	
4 —	-4.0	Saturated tan sand	-						
5 —	-5.0							-	
6 <b>—</b> - 7 <b>—</b>	-6.0 <b></b> -7.0 <b></b>	Wet tan medium sand	2					 -	
8 —	-8.0							<u>-</u>	
9 —	-9.0 —								
11 -	-10.0 — -11.0 —	Wet tan medium sand	3					- - -	
12 —	-12.0 —— -13.0 ——							- -	
14 —	-14.0 —	Wet tan medium sand	4					<u>-</u>	
<b>15</b> — - <sub>16</sub>	- <b>15.0</b> — -16.0								
		End of Boring: 16'		000000000000000000000000000000000000000		000000000000000000000000000000000000000	000000000000000000000000000000000000000		
<b>Notes:</b> Set	t 1" PVC we	ell screen 6-16 ft, granular bentonite seal at surface, 3" steel ca	sing w/ locking	top					
Water Leve	el / Caving	Observations:	Additiona	Additional Comments:					
Wate	er Level <sub>Durir</sub>		11						
Water L	Level <sub>Upon Co</sub> ved at <sub>Upon Co</sub>	ompletion: ± ft (EI. 0±)	Boring Lo	Boring Location Offset: Reason for Offset:					
V	Water Level Caved at	I delayed: ± ft (El. 0±) after hr(s)	ii .	INCLUSION OF SELECTION OF SELEC					

Project: Dale Clark Site Wetland Mitigation Bank

Project No.: 1711

Location: County Road G

Spring Green, WI

Drill Date: December 21, 2015
Drilled by: Badger State Drilling

Logged by: RJM

Sampling Method: Geoprobe 1" cores

	elow Surface	VISUAL SOIL CLASSIFICATION	Sample No.	Feet	Feet	Sample	Sample	Remarks
	(ft)	Ground Surface Elevation: 0.0		Driven	Recovered	Тор	Bottom	Remarks
1 — 2 — 3 —	-1.0 — -2.0 — -3.0 —	Tan fine to medium sand	1					- - - - -
4 — 5 —	-4.0 — -5.0 —							- - -
6	-6.0	Tan fine to medium sand  Buried A-horizon	2					- - - -
8	-8.0							
9— 10—	-9.0 -9.0 -10.0	Silty clayey sand, B-horizon	3					-  -
11 —	-11.0 <b></b> -12.0 <b></b>	Dry, light tan sand						_  
13 —	-13.0 — -14.0 —	Dry, light tan sand	4					- - -
<b>15</b> —	-15.0 <u> </u>							- - -
17 — 18 —	-17.0 — -18.0 —	Saturated light tan sand	5					- - -
19 —	-19.0 <b></b>							-  -
20 —	-20.0 —	20000 10000 10000 20000 20000 10000 10000 10000 20000 20000 10000 10000 10000 10000 10000 10000 10000 10000 10000						10000



**Project: Dale Clark Site Wetland Mitigation Bank** 

Project No.: 1711

Location: County Road G

Spring Green, WI

Drill Date: December 21, 2015

**Drilled by: Badger State Drilling** 

Logged by: RJM

Sampling Method: Geoprobe 1" cores

Depth B	selow Surface (ft)	VISUAL SOIL CLASSIFICATION Ground Surface Elevation: 0.0	Sample No.	Feet Driven	Feet Recovered	Sample Top	Sample Bottom	Remarks
20 —	-20.0							B5888
21	-21.0 —							<u>-</u>
22	-22.0	Saturated light tan sand						<u>-</u>
23	-23.0 —							
24	-24.0							- -
		End of Boring: 24'					den en e	
Notes:	Set 1" PVC we	ll screen 14-24 ft, granular bentonite seal at surface, 3" steel ca	sing w/ lockin	g top				
Water L	evel / Caving	Observations:	Addition	al Comme	nts:			
∥ w	ater Level During	$_{\text{9 Drilling}}$ : 3.5 ± ft (EI3.5±)						
∥ Wat	er Level <sub>Upon Co</sub>	mpletion: ± ft (El. 0±)						
(	Caved at <sub>Upon Completion</sub> : ± ft (El. 0±)		Boring Lo	cation Offs	set:			
	Delay	Time: hr(s)	Reason f	or Offset:				
	Water Level	delayed: ± ft (El. 0±) after hr(s)   ¥						
	Caved at	delayed: ± ft (El. 0±) after hr(s)						

Project: Dale Clark Site Wetland Mitigation bank

Project No.: 1711

Drill Date: December 21, 2015

Drilled by: Badger State Drilling

Location: County Road G Logged by: RJM

Spring Green, WI Sampling Method: Geoprobe 1" cores

Depth B	elow Surface	VISUAL SOIL CLASSIFICATION		Sample	Feet	Feet	Sample	Sample	D = == -1		
	(ft)	Ground Surface Elevation: 0.0		No.	Driven	Recovered	Тор	Bottom	Remarks		
-	_	Sandy loam topsoil							-		
1—	-1.0		_								
2_	-2.0			4							
-	- 4	Light brown fine to medium sand		1					_		
3	-3.0	Ü							_		
	. 1								-		
4-	-4.0 <b></b>	100000   1000000   1000000   1000000   1000000   1000000   100000   100000   100000   100000   100000   100000   10000	-								
5	-5.0								10000		
-	4	Fine sand		_					-		
6-	-6.0			2							
7	-7.0										
-	4	Light brown to yellowish brownmedium sand							-		
8-	-8.0	100000 1000000									
9_	-9.0										
-	4	Light brown to yellowish brown medium sand							-		
10 —	-10.0	Eight brown to your mount mount in our a		3							
11_	-11.0										
-	<u> </u>	Saturated light brown to yellowish brown medium sand							-		
12	-12.0	Saturated light brown to yellowish brown medium sand									
13	-13.0								_		
"-	10.0								_		
14	-14.0	Light brown medium to coarse sand		4							
	45.								=		
15 —	-15.0								-		
16	-16.0										
-	+								-		
17-	-17.0										
18	-18.0	Light brown medium to coarse sand		5							
-	4								_		
19	-19.0										
20 -	-20.0								00000		
	1	End of Boring: 20'									
Notes:	0-14" 51:0		-t1 :								
	Set 1" PVC we	ell screen 14-24 ft, granular bentonite seal at surface, 3" s	steel casing	w/ locking	тор						
Water L	Nater Level / Caving Observations:				Additional Comments:						
ı	Water Level <sub>During Drilling</sub> : 3.5 ± ft (El3.5±)										
1	Water Level Upon Completion: ± ft (El. 0±)										
ı	Caved at Upon Co		- 11	Boring Location Offset:							
		y Time: hr(s)		Reason for Offset:							
	Water Leve	l <sub>delayed</sub> : ± ft (El. 0±) after hr(s)	v								
	Caved a	t delayed: ± ft (El. 0±) after hr(s)									
<u> </u>		represent approximate boundaries between soil types.	<u></u>		, ,						

Project: Dale Clark Site Wetland Mitigation Bank

Project No.: 1711

Location: County Road G

Spring Green, WI

Drill Date: December 21, 2015

**Drilled by: Badger State Drilling** 

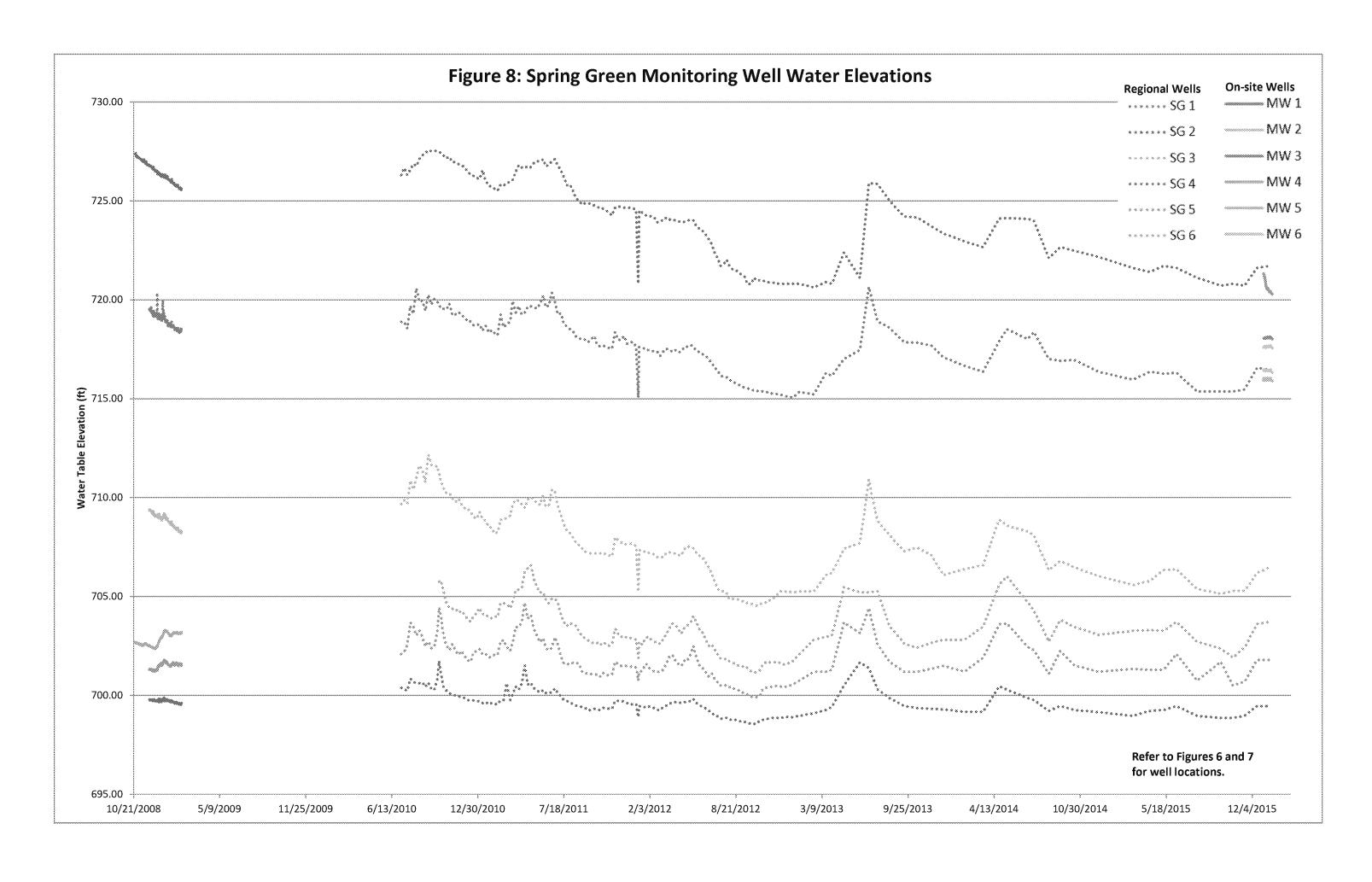
Logged by: RJM

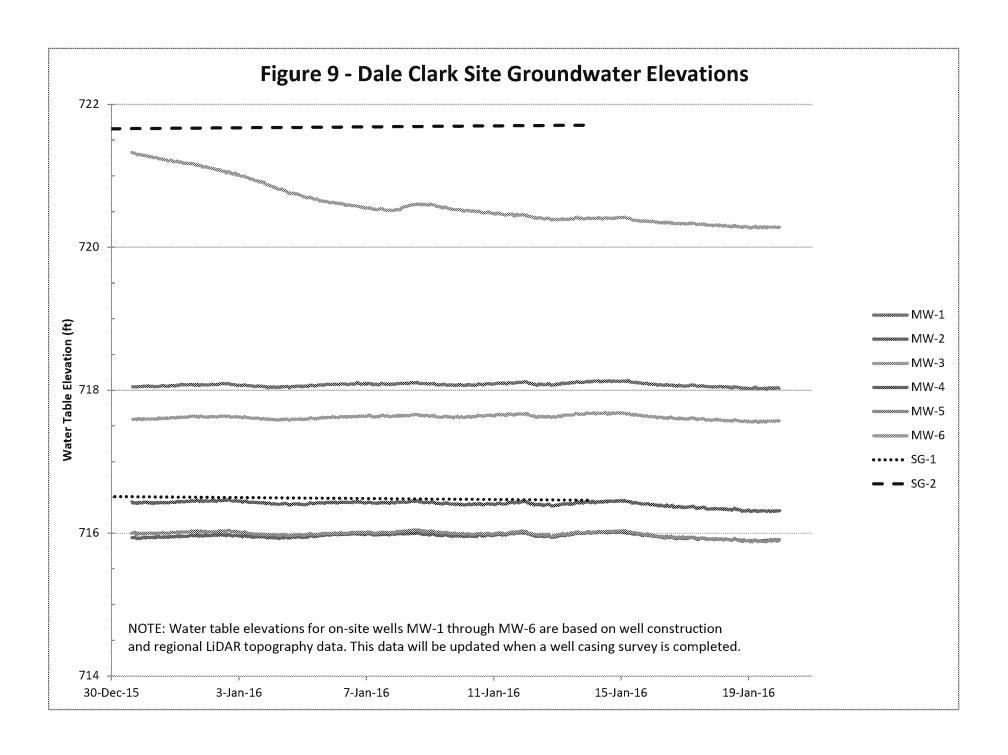
Sampling Method: Geoprobe 1" cores

Depth B	elow Surface	VISUAL SOIL CLASSIFICATION	Sample	Feet	Feet	Sample	Sample	Damesilis	
	(ft)	Ground Surface Elevation: 0.0	No.	Driven	Recovered	Тор	Bottom	Remarks	
		Tilled topsoil w/ organic inclusions		1		<u>                                     </u>			
1_1	-1.0	sandy loam							
· 4	I	Sundy loan						_	
2-	-2.0		1						
4	4	Grey to brown fine to medium sand						-	
3-	-3.0	•							
4_	-4.0								
4	4							_	
5 —	-5.0	Tan to light brown fine to medium sand						*******	
-		Tall to light shown into to into alarm oalls						-	
6	-6.0 <b>V</b>		2					_	
7	-7.0								
-	4	Saturated tan to light brown fine to medium sand						-	
8	-8.0								
	-9.0							-	
]	-9.0	Light brown fine to medium sand							
10 —	-10.0		3					*****	
-	+	Silt	-					-	
11	-11.0	Brown medium sand w/more coarse dark-grained mineral	-					_	
12	-12.0	constituents than upper layers							
-	12.0								
13	-13.0								
	-	Brown medium sand w/more coarse dark-grained mineral						_	
14	-14.0	constituents than upper layers	4						
15 —	-15.0								
	_							-	
16	-16.0	End of Boring: 16'	000000000000000000000000000000000000000	100000000000000000000000000000000000000		<u></u>		***************************************	
Notes:		Elia of Boiling. 10							
	Set 1" PVC we	ell screen 6-16 ft, granular bentonite seal at surface, 3" steel casin	g w/ locking t	ор					
		,	_ 3.	-					
			76						
	e <b>vel / Caving</b> ater Level <sub>Durir</sub>	Observations:           ng Drilling:         -6.5 ± ft (El. 6.5±)	Additiona	Additional Comments:					
	ater Lever <sub>Durir</sub> er Level <sub>Upon Ci</sub>								
	Caved at Upon Completion: ± ft (EI. 0±)			Boring Location Offset:					
	Dela	y Time: hr(s)	Reason for Offset:						
	Water Leve								
	Caved a	t delayed: ± ft (El. 0±) after hr(s)							

# ATTACHMENT 4 MONITORING WELL HYDROGRAPHS (FIGURES 8 – 9)







# ATTACHMENT 5 RESUMES



### Jeffrey D. Kraemer w.P.LT.

Senior Scientist / Project Manager



Mr. Kraemer specializes in environmental regulatory support and policy. He has substantial experience working with the local, state, and federal regulatory agencies on complex, often controversial projects. Mr. Kraemer has substantial experience assisting clients at the project planning level to identify and plan for environmental regulatory implications and risk across many industry sectors with particular expertise in the utility and private development industries. Mr. Kraemer has a thorough understanding of the technical and regulatory aspects of environmental projects. His experience includes: Project critical issues analysis/permitting feasibly assessments; Wetland and other natural resource investigations, mitigation planning, and permitting; Clean Water Act and Endangered Species Act studies and consultation; and National Environmental Policy Act documentation (EA/EIS).

In addition to environmental regulatory expertise, Mr. Kraemer has a strong technical background in wetland ecology and botany and manages Stantec's Midwest ecological restoration implementation group. This group is responsible for building, managing, and monitoring natural area restoration projects such as wetland mitigation. Mr. Kraemer is an assured wetland professional through the Wisconsin Department of Natural Resources Wetland Delineation Professional Assurance Initiative and has extensive environmental consulting experience as both a field ecologist and project manager.

### EDUCATION

Wetland Training Institute, Training, Wetland Soils and Hydrology, 2003

Vegetation of Wisconsin Workshop, Training, UW-Milwaukee, 2000

Wetland Delineation Training Workshop, Continuing Education and Extension, UW-La Crosse, 2001

Identification of Sedges Workshop, Training, UW-Milwaukee, 2001

Environmental Corridor Delineation Workshop, Training, Southeastern Wisconsin Regional Planning Commission (SEWRPC), 2004

M.S. – Biological Sciences (Emphasis in Wetland Ecology), University of Wisconsin, Milwaukee, Wisconsin, 2003

B.S. – Biological Sciences (Emphasis in Aquatic Biology), University of Wisconsin, La Crosse, Wisconsin, 1999

Assured Wetland Delineator, Milwaukee, Wisconsin, 2008

### REGISTRATIONS

Professionally Assured Wetland Delineator, Wisconsin Department of Natural Resources

Wetland Professional in Training (WPIT), Society of Wetland Scientists Certification Program

### MEMBERSHIPS

Member, Society of Wetland Scientists

Member, Wisconsin Wetlands Association

#### PROJECT EXPERIENCE

#### Commercial / Retail Development

Commercial Development, Windsor, Wisconsin Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation planning in support of the commercial development project.

### Fitchburg Technology Campus, Fitchburg, Wisconsin

Completed woodland assessment, tree survey, and woodland restoration and management plan in support of retail and commercial development project.

<sup>\*</sup> denotes projects completed with other firms

### Jeffrey D. Kraemer weut.

Senior Scientist / Project Manager

#### **Conventional Power**

### Edgewater Generation Facility, Sheboygan, Wisconsin

Managed and coordinated environmental regulatory process for expansion of existing fly-ash disposal facility which required approvals from the USACE and WDNR for wetland impacts associated with the project.

#### Waukegan Power Station, Lake County, Illinois

Provided threatened and endangered species consultation and wetland surveying along Lake Michigan shorelines for permitting a dredging activity and expansion of the facility.

### Nelson Dewey Power Generation Facility Expansion Project, Caseville, Wisconsin

Completed comprehensive field evaluations of wetlands in preparation of NEPA documentation for expansion of the facility.

### Waukegan Power Generation Facility Expansion Project, Lake County, Illinois

Completed field evaluations of wetlands and threatened and endangered species in coordination with Section 404 permitting requirements for expansion of the facility.

### Invasive Species Survey, Prairie Du Sac, Wisconsin

Conducted a purple loosestrife survey on Lake Wisconsin shorelines and wellands in order to develop a purple loosestrife management plan in support of the hydroelectric facility FERC licensing.

#### **Ecosystem Restoration**

### Campus Facility Native Landscape Management, Milwaukee County, Wisconsin

Managed and coordinated development of a native landscape plan for the 50 acres of open space surrounding Northwestern Mutual's campus facility. The plan consisted of wetland, woodland, and prairie restoration. Following completion and approval of the plan, continued to manage and coordinate the implementation of native landscape installation and longtern management.

### Threatened Plant Species Consultation, Port Wing, Wisconsin

Completed comprehensive study of a threatened plant species population (Petasites sagittutus) in support of STH 13 Reconstruction project including preparation of relocation and monitoring plan, physical relocation of plants, and follow-up annual monitoring. This project resulted in one of the first documented, successful relocation of this species after five years of monitoring.

### Neptune Wetland Mitigation Site, Richland County, Wisconsin

Completed armual comprehensive vegetation surveys, mapping, performance evaluations, and reporting of a 50-acre wetland mitigation bank site.

### Lake Koshkonong Water Level and Wetland Studies, Lake Koshkonong, Wisconsin

Developed and conducted wetland studies for development of a water level management plan: E. prairie fringed orchid hydrology study; Floodplain forest/hydrology study; Floristic quality assessment/vegetation mapping within 4000 acres of wetlands.

### Wildcat Mountain Wetland Mitigation Monitoring, Vernon County, Wisconsin

Completed comprehensive vegetation surveys, mapping, performance evaluations, and reporting of 38-acre mitigation site.

### Jug Creek Wetland Mitigation Monitoring, Vernon County, Wisconsin

Completed comprehensive vegetation surveys, mapping, performance evaluations, and reporting of 10-acre mitigation site.

### Wetland Mitigation Bank Monitoring and Remediation, Oakdale, Wisconsin

Completed annual mitigation site monitoring, vegetation surveys, and performance evaluations of 60-acre mitigation bank site. Completed mitigation remediation management plan for compliance with USACE performance standards.

#### Samuelson Fen Restoration, Portage, Indiana

Developed restoration plan to restore a degraded 30-acre fen, conducted vegetation surveys, floristic quality assessments and hydrology monitoring.

<sup>\*</sup> denotes projects completed with other firms

### Jeffrey D. Kraemer w.p.u.t.

Senior Scientist / Project Manager

#### Healthcare

### Badger Prairie Health Care Center Expansion Project, Verona, Wisconsin

Completed wetland delineation/evaluations and wetland permitting in support of the expansion of the healthcare facility.

#### Oil and Gas Pipelines

New Gas Pipeline Project, Wausau, Wisconsin Completed environmental surveys along proposed gas pipeline corridor including environmental assessments, threatened and endangered plant species survey, and identification of wetland and upland community types.

#### Southern Access Expansion Project, Wisconsin

Crude Petroleum Pipeline Project. Completed wetland delineations and habitat assessments along a 343 mile proposed crude petroleum pipeline corridor through Wisconsin as part of Enbridge Energy's Southern Access Expansion Program.

#### **Power Transmission & Distribution**

#### ComEd Prairie Programs, Various Locations, Illinois

Project manager for supporting ComEd's Prairie Program. ComEd initiated this program to restore native prairie habitats within their electric transmission Rights-of-way (ROW) and buffers. Stantec manages this program in coordination with ComEd which includes development of native management plans; coordination with site stewards; development of annual budgets; development of performance standards, and identifying new sites and stewards for program expansion. Stantec's implementation services include a full range of prairie restoration and management including preparing and installing new prairies and managing existing prairies through herbiciding, mowing, shrub removal; and prescribed burning. Currently there are over 100 acres of ROW within the prairie program in various stages of development.

### Prairie Program

Project manager for supporting ComEd's Prairie Program. ComEd initiated this program to restore native prairie habitats within their electric transmission Rights-of-way (ROW) and buffers. Stantee manages this program in coordination with ComEd which includes development of native management plans; coordination with site stewards; development of annual budgets; development of performance standards, and identifying new sites and stewards for program expansion. Stantec's implementation services include a full range of prairie restoration and management including preparing and installing new prairies and managing existing prairies through herbiciding, mowing, shrub removal; and prescribed burning. Currently there are over 100 acres of ROW within the prairie program in various stages of development.

### Electric Transmission Line Projects

Managed support for environmental and GIS services to gain regulatory approvals for new transmission lines. Provided project support for: transmission line siting; critical issues analysis; route matrices; GIS data acquisition and mapping services, coordination of regulatory agency meetings, completion of field welland delineations; threatened and endangered species; biological assessment and Section 404 permitting, CPCN approvals; community advisory and public workshop support, and expert witness testimony. LaSalle-Ottawa, LaSalle County, IL; Wood River Refinery, Madison County, IL; Rockwood-Big River, Jefferson County, MO; Saddle Creek 73, Franklin County, MO. Havana Rebuild, Mason County, IL

### 345 kV Transmission Line Project, Wisconsin

Arrowhead to Weston. Completed wetland delineations, threatened and endangered plant surveys, and habitat assessments along a 208 mile proposed new transmission line.

### Endangered Species Support, Wisconsin

Conducted Karner Blue butterfly surveys (federally endangered) along transmission line right-of-ways.

#### **Residential Development**

### Country View Estates, DeForest, Wisconsin

Completed wetland delineation/evaluation, wetland permitting, and mitigation planning in support of a 400-acre mixed residential/commercial/recreational development project.

<sup>\*</sup> denotes projects completed with other firms

### Jeffrey D. Kraemer weut.

Senior Scienlist / Project Manager

### Northeast Neighborhood Plan, Fitchburg, Wisconsin

Developed wetland protection standards for the City of Fitchburg's NE Neighborhood Plan.

### Wesenberg Development, New Glarus, Wisconsin

Conducted threatened and endangered plant species surveys, wetland delineations, and floristic quality assessment in support of the residential development.

### Westwynde Development, Sun Prairie, Wisconsin

Completed wetland delineation/evaluations, wetland permitting, wetland mitigation planning, and upland prairie restoration planning in support of the residential development.

### Westshore Development Restoration Design, Oconomowoc, Wisconsin

Designed a 30-acre upland habitat enhancement and wetland restoration plan in support of gaining regulatory approvals for residential development.

### Warehouse / Light Industrial

### Manufacturing Facility Expansion Project, Arcadia, Wisconsin

Developed and gained WDNR/USACE approval for 35-acre welland mitigation plan in support of welland impact application for expansion of the manufacturing facility; continue to monitor and coordinate implementation of mitigation plan.

### Industrial Facility Expansion Project, Hustisford, Wisconsin

Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation planning in support of the expansion of the industrial facility.

### Trucking Facility Expansion, Franklin, Wisconsin

Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation design for expansion of the trucking facility.

<sup>\*</sup> denotes projects completed with other firms

### Jeffrey D. Kraemer w.rut.

Senior Scienlist / Project Manager

### **PUBLICATIONS**

Presentation. Lake Koshkonong Wetlands: Diversity, Floristic Quality, and Community Mapping. Lake Koshkonong Wetland Association, 2006.

Presentation. Management of the Eastern Prairie Fringed Orchid in the Lake Koshkonong Wetlands. Lake Koshkonong Wetland Association, 2006.

Presentation. Lake Koshkonong Water Level Controversy: A Balance between Recreation and Wetland Protection. WWA Annual Science Forum, 2005.

Presentation. Lake Koshkonong Water Levels and Growth Rate of Trees in Bordering Floodplain Forests.. Lake Koshkonong Wetland Association, 2005.

Presentation. Floodplain forest hydrology and management implications: Lake Koshkonong as a case study. Wisconsin Wetlands Association Annual Science Forum, 2004.

Kraemer, J. Using wetland plants as indicators of fine scale variation in hydrology: the plant community-environment relationship in sedge meadows. *Master's Thesis defense*, 2003.

Presentation. Effects of invasive plant species on natural communities. *UW-Milwaukee*, *Biology* Department, 2001.

### ROBERT J. MONTGOMERY, P.E.

### **PRINCIPAL**



### **EXPERIENCE SUMMARY**

Rob Montgomery has 35 years of consulting engineering experience, applying hydrology and hydraulics to a wide variety of water resources, environmental and civil engineering projects. After completing his bachelor's and master's degrees in civil engineering and working for several years in the United Kingdom, Rob moved to the Madison, Wisconsin area where he worked for a dozen years at Warzyn Engineering, building expertise and management ability in both civil and environmental engineering. In 1992, Rob opened the Madison office for Johnson Johnson & Roy. After three years with Woodward Clyde, Rob began his own practice in water resource engineering in 1998. Montgomery Associates: Resource Solutions, LLC is a water resources practice with expertise in surface water, groundwater, and water quality management.

#### EXPERTISE

Surface water analysis and design Groundwater analysis and design River and Reservoir Analysis Shoreline Stabilization Low Impact Development

#### REGISTRATION

Professional Engineer in Wisconsin 21276

Diplomate in Water Resource Engineering, American Academy of Water Resource Engineers

### **EDUCATION**

BS – Civil Engineering, 1976 U. of Illinois – Champaign-Urbana

MS – Civil Engineering, 1980 Colorado State University

### PROFESSIONAL HISTORY

Montgomery Associates: Resource Solutions, LLC: Principal, 1998 - Present

Woodward-Clyde Consultants, Middleton, WI: Consultant, 1995 - 1998

Johnson Johnson & Roy, Madison, WI: Principal, 1992 - 1995

Warzyn Engineering, Madison, WI: Project and Tech. Manager, 1980 - 1992

W H Radford & Son, Nottingham, UK: Staff Engineer, 1976 to 1978

### SELECTED PROJECT EXPERIENCE

Lake Belle View Restoration Project, Belleville, WI

- Oversaw coordination of six subcontractors to restore a degraded millpond on the Sugar River with a separation berm, dredging of 140,000 cubic yards, and re-use of dredged soil for wetland habitat creation.
- Oversaw development of conceptual plans, permitting and preliminary engineering, final design, and preparation of construction documents, bid assistance, and construction observation.
- Presented at numerous public meetings, including informational meetings conveying project goals, status, and design and permitting information.

MMSD Climate Change Vulnerability Analysis, Milwaukee WI

- Provided Principal-in-Charge input to planning-level risk analysis of climate change effects on MMSD facilities and operations a subconsultant to Brown & Caldwell.
- The project resulted in a matrix of likely physical responses to climate change and the impacts of each on District collection, storage, treatment and watercourse systems, both to systemwide function and on individual component types.
- The resulting ranking of potential threats due to climate change, included a list of potential adaptation actions and a recommendation of further District planning steps.

Lake Koshkonong Experimental Project, Rock County, WI

- Managed design and construction of wetland restoration/ shoreline protection, including 4,000 yd<sup>3</sup> of dredging, a rip-rap faced shoreline protection berm & creation of habitat with dredged soils placed along wetlands.
- Managed environmental permitting, preparation of construction documents & public bidding process.

### ROBERT J. MONTGOMERY, P.E.

### **PRINCIPAL**

### **TECHNICAL ACTIVITIES**

Occasional Presenter at UW-Madison Engineering Professional Development and Department of Civil and Environmental Engineering.

Member, ASCE Urban Water Resources Research Council, Task Committee participant

Member, Capital Area Regional Planning Commission Technical Advisory Committee

Participant, Wisconsin Initiative for Climate Change Impacts (WICCI), urban storm water and water resource committees

### SERVICE ACTIVITIES

Chair, ASCE Wisconsin Section Report Card on Infrastructure - Rivers & Dams

Chair, Town of Pleasant Springs Planning Commission

Member of Dane County Advisory Committee on Revised Stormwater Infiltration Ordinance



Hydraulic controls and operating strategies for Indianford Dam and Lake Koshkonong, WI

- Served as hydrologist to the District since 2001.
- Oversaw development & calibration of hydrodynamic (HEC-RAS) model of the Rock River and Lake Koshkonong.
- Developed strategy for dam operation and lake water level management, integrated with ecological objectives.
- Presented details at numerous meetings with agency staff and stakeholders, and testified at contested case hearing.
- Led District's technical partnership with the US Army Corps of Engineers and the Wisconsin DNR on developing a Comprehensive Plan for Lake Koshkonong.

San Diego Creek Channel Repair Design, Irvine, CA

- Led investigation of failure mechanisms and preparation of repair design alternatives for ~1 mile of channel lined with articulated concrete block.
- Managed geotechnical investigation, hydraulic modeling, block stability analysis & hydraulic flume testing.
- Presented to technical and legal representatives.

### Robinson/Herrling Dam Restoration, Greenbush, WI

- Prepared hydrologic, structural and environmental impact analysis, permitting & design for permitting of restoration of award-winning 1850s dam, millpond, and sawmill.
- Developed alternatives to avoid impact to Mullet River, including two state-threatened mussel species.

Shore Protection and Environmental Management, Park Shore Development, St. Francis, WI

- Conducted site investigation of groundwater and soil contamination and the physical remains of the structures along and in Lake Michigan
- Designed 600-ft rock revetment & oversaw maintenance plan for 400-ft sheet pile wall on Lake Michigan.

Whistling Straits Golf Course, Sheboygan, WI

- Developed a comprehensive analysis of vegetation, surface and groundwater hydrology and civil engineering issues to analyze options for wetland impact minimization.
- Developed a detailed impact mitigation plan, including compensatory wetland construction, which resulted in approval by Wisconsin DNR and the Corps of Engineers.
- Implemented a wetland impact and mitigation monitoring program for the project.

### DANE M. WUDEL, E.I.T.

### **STAFF ENGINEER**



### **EXPERIENCE SUMMARY**

Dane is a 2013 graduate of University Wisconsin—Madison with a Bachelor of Science in Civil and Environmental Engineering. Since graduation, Dane has worked in the engineering consulting field conducting analyses and preparing reports and documents associated with stormwater and erosion control permitting for utility and site improvement/development projects, water quality monitoring data collection and analysis, and low impact design. Dane is well versed in topographical analysis, hydrologic and hydraulic modeling, stormwater management, and erosion control, among others. Dane is proficient user of AutoCAD Civil3D, Microstation, RECARGA, WinSLAMM, HEC-RAS, P8, ArcGIS, and HydroCAD modeling and drafting applications.

#### EXPERTISE

Erosion Control
Water Quality Analysis
Hydrologic and Hydraulic Modeling
Stormwater Management Analysis and Design
Site Survey and Topographic Analysis
Construction Drawings and Details
Low Impact Development Design

### REGISTRATION

Engineer in Training (E.I.T.) Wisconsin # 1512531

### **EDUCATION**

B.S. Civil and Environmental Engineering, 2013 University of Wisconsin-Madison

### PROFESSIONAL HISTORY

Montgomery Associates: Resource Solutions, LLC Cottage Grove, WI Staff Engineer 2014-Present

University of Wisconsin—Madison College of Engineering Undergraduate Learning Center SI Facilitator 2011-2014

#### **A**FFILIATIONS

Engineers Without Borders (EWB) Madison, WI

Friends of Starkweather Creek (FSC) Madison WI

### SELECTED PROJECT EXPERIENCE

### Leopold Memorial Reserve Enhanced Wetland, Fairfield, Wisconsin (MARS Staff Engineer)

- Collected surface water and groundwater samples for water quality testing and performed flow measurements within wetland and adjoining stream.
- Analyzed water quality data to determine on-site nutrient loading trends
- Incorporated local precipitation data and site flow data to quantify nutrient loading trends and nutrient loading mitigation performance of the wetlands

### Grand Legacy at Lake Wisconsin, Dekorra, WI (MARS, Staff Engineer)

- Developed construction plans for a 340 acre rural residential development
- Used Civil 3D, HydroCAD, WinSLAMM, and ArcGIS to conduct hydraulic and hydrological analysis and design
- Prepared erosion control and stormwater management plan to meet local and state requirements
- Coordinated with local regulatory agencies, survey crew, developer, and owner to develop grading and construction plans

### Alliant Energy/ATC Electric Substations, Multiple Locations, WI (MARS Staff Engineer)

- Performed hydrologic and hydraulic analysis of preand post-development conditions to satisfy local and state regulations
- Evaluated local environmental and drainage features to develop grading and construction plans
- Developed stormwater management, erosion control plans for permitting and construction of various utility substation projects

### DANE M. WUDEL, E.I.T.

### STAFF ENGINEER



### ATC Substation Stormwater Facility Inspections, Multiple Locations, WI (MARS Staff Engineer)

- Conducted field investigations to evaluate performance of stormwater management plans
- Confirmed repair work done to alleviate previously observed stormwater management problems
- Identified on-site vulnerabilities and potential erosion control and stormwater management concerns
- Prepared reports to recommend further actions to rectify potential obstacles to stormwater management goals

### Bluegill Bay County Park Fishing Pond Restoration, Wausau, WI (MARS, Staff Engineer)

- Performed dissolved oxygen measurements, inflow and outflow flow rate measurements, and depth measurements to characterize site conditions
- Performed historical analysis of the site and contributing waters to identify potential water quality concerns
- Designed low impact development features to treat stormwater discharges contributing to the site
- Coordinated with local and state regulatory agencies to obtain dredging, zoning, and erosion control permits

### Cason and Associates, Various Projects, Multiple Locations, WI (MARS Staff Engineer)

- Used HydroCAD, P8, and WinSLAMM to analyze pre- and post-development conditions
- Designed stormwater management devices to meet applicable regulatory performance standards
- Developed erosion control and stormwater management plans obtain applicable permits
- Coordinated with project team members to identify endangered species concerns and design construction methods to minimize habitat impacts

### Alliant Energy Distribution Service Projects, Multiple Locations, WI (MARS Staff Engineer)

- Used ArcGIS applications to prepare Public Service Commission – Certificate of Authority submittals to install new utility distribution services
- Conducted analyses to identify regulated environmental features to design a low-impact construction plan
- Used ArcGIS and Civil3D to prepare erosion control plans, wetland impacts reports, and other documents to secure local, state, and federal permits
- Coordinated with various project team members to incorporate natural and cultural resource preservation practices into construction plans

### Madison Gas and Electric Company, Various Submittals (MARS, Staff Engineer)

- Prepared various erosion control plans and other planning documents related to the installation of underground gas distribution services
- Used ArcGIS to evaluate spatial data to determine site characteristics and identify potential concerns
- Evaluated project routes and environmental features to develop final erosion control and construction plans
- Coordinated with various state and local agencies to complete submittals and obtain permits

### NAMI Building Drainage Improvements, DeForest, WI (MARS, Staff Engineer)

- Prepared construction plans and cost estimates to improve drainage at a 101,000 sq. ft. industrial facility
- Used AutoCAD Civil 3D to analyze survey information to determine drainage characteristics
- Created hydrologic and hydraulic model of the site to evaluate and design drainage improvement options
- Coordinated with surveyor to determine potential utility conflicts and incorporated these into the design